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ABSTRACT

This document summarizes a survey of the recent history, economy, and future prospects for the Great Lakes region which includes Ohio, Indiana, Michigan, Illinois, Wisconsin, and Minnesota. The two major components of the survey are concerned with an analysis of the region's problems and needs and with an economic and demographic analysis of the area. Strategies for revitalization are examined. Numerous tables and graphs are included. (MA)

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Stimulating the Economy of the Great Lakes States

A Survey for the Committee for Great Lakes Economic Action

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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The Academy for Contemporary Problems is a public policy research center established in September 1975 by the Council of State Governments, International City Management Association, National Association of Counties, National Conference of State Legislatures, National Governors' Association, National League of Cities, and U.S. Conference of Mayors. It is a tax-exempt public foundation under Sections 501(c)(3) and 509(a) of the Internal Revenue Code.

STIMULATING THE ECONOMY OF THE GREAT LAKES STATES

A SURVEY

FOR

THE COMMITTEE FOR GREAT LAKES ECONOMIC ACTION

Prepared by the Academy for Contemporary Problems
with a Research Grant from the Office of Economic Research
of the Economic Development Administration
U.S. Department of Commerce

December 1977

THE COMMITTEE FOR GREAT LAKES ECONOMIC ACTION

To explore the need and possibilities for regional cooperation in meeting the economic problems of the Great Lakes states, the Governors of Ohio, Indiana, Illinois, Michigan, Minnesota, and Wisconsin appointed the Committee for Great Lakes Economic Action to oversee the execution of this action survey.

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EXECUTIVE SUMMARY

This report is a survey of the recent history, economy, and future prospects for a region known by a variety of names: the Great Lakes Region, the East North Central Census Region, Federal Administrative Region V, the heavy manufacturing section of the northeast manufacturing belt, or the Industrial Midwest. The region as defined for this paper is equivalent to that of Federal Administrative Region V: Ohio, Indiana, Michigan, Illinois, Wisconsin, and Minnesota. The impetus for the survey came from a growing awareness that the region is beginning to face some difficult transitional problems of adjustment because of structural changes within the national economy. The stress is most apparent in the region's older industrial centers.

The survey has two major components.

The first is derived from interviews with approximately 800 leaders of business, government, labor, and civic affairs in the region. They were asked for their views on the region's problems and needs.

The second is an economic and demographic analysis of the six-state area.

These two separate efforts have been used to compare factual information available with perceptions of those making decisions.

The following are the major findings of the economic analysis and the interview program:

The Great Lakes states have been the industrial heartland of the United States for more than a century. There is a high degree of economic interdependence in the region. Now this region faces its first severe test as the core of its economic base, heavy manufacturing, is dispersing out of the central cities, and with new manufacturing growth favoring other regions of the country and even other nations. The leadership of the region faces the

question of how best to aid the older manufacturing centers in their transition from heavy reliance on manufacturing to more diversified and balanced economic bases.

This transition is made difficult by several factors, which are national, but which especially influence this region's transitional problems:

- Slow employment growth rates in the region, making it difficult to absorb manufacturing workers displaced by modernization as well as increasing numbers of new workers entering the labor force.
- Slow national economic growth rates which result in lower demands for goods produced in the cyclically highly sensitive Great Lakes economy and which prevent many Great Lakes workers from finding employment in other parts of the nation.
- Heavy manufacturing, which long undergirded this region's economic dominance, is growing slowly in the United States, still more slowly in the region. Some industrial sectors are sustaining absolute job losses.
- Nonmanufacturing jobs in the region are not growing fast enough to absorb those displaced by the substitution of capital for labor, absolute losses of employment in some basic industries, natural increase in the size of the labor force, and increased participation in the labor force.
- The job growth that is occurring is taking place largely in suburban or nonmetropolitan areas. The older manufacturing centers are facing increasing concentrations of unemployment compounded by the intransigent problems of hard core joblessness among the poor in the central cities of the larger metropolitan areas.

- Uncertainty about energy supply, some of the costs of doing business in the region, and selected aspects of transportation, capital availability, water, and other specific problems represent impediments that must be overcome if new growth in the regional economy is to be stimulated.

The most serious problems of the Great Lakes Region center on its largest cities and older industrial towns that have formed the backbone of its economy. For this reason, the solution of the economic problems of the region will require the development of a new urban revitalization strategy specifically tailored to meet the needs of these communities.

A Great Lakes urban strategy will have to consist of a number of carefully coordinated elements, some of significance in the near-term, others addressed to long-term economic development objectives. Because each will require intensive cooperation between the public and private sectors and will depend upon effective integration of efforts between local, state, and federal governments, cities and metropolitan areas will have to organize both public and private leadership for effective, coordinated action.

Urban strategies will have to include:

1. Physical and economic redevelopment components designed to create a physical environment conducive to new firm formation in the city and to provide the incentives, space (and land), services, and quality of operating environment required to attract and retain potential residential, non-manufacturing, and specialized high-employment growth manufacturing re-uses appropriate to central city locations in the future.

2. A labor market component designed not only to train or re-train the employed or under-employed for available jobs in the metropolitan area (together with transportation to those jobs), but to provide affirmative assistance also to those choosing to move to jobs located elsewhere outside the local labor market.

3. Social and neighborhood components aimed at correcting the social disincentives and impediments to economic revitalization, i.e., declining schools, high crime rates, and chronic welfare problems while improving neighborhood housing and living conditions; enabling workers to live anywhere of their own choosing in the metropolitan area; and diversifying the mix of income groups residing in the city itself. The central areas must become competitive with suburbs by offering a unique residential environment. No city can long survive solely as a reservation for the poor. A diversified residential base is essential to both the restoration of a stable tax base and the re-development of the economic base in the central areas.

4. A fiscal component designed to assist these cities in transition to meet the needs of their inhabitants in the face of tax base deterioration while they shift toward a more viable economic base. While intergovernmental fiscal transfers from federal and state governments offer the only immediate device for accomplishing this aid, long-term solutions will depend upon a fifth element:

5. Governmental re-structuring. The structure, functions, and financing of local governments in these older urban areas no longer match the social and economic realities that exist. States will confront the urgent necessity for local government streamlining and reform in these areas in the decade ahead. It is likely that the growing economic problems of these areas will compel such reforms despite longstanding political opposition, for the suburban areas must come to recognize their common interest with the city in economic revitalization.

While the Federal Government must bear a major responsibility for aiding urban areas and for stimulating growth in the economy as a whole, there is much the Great Lakes region can do on its own behalf. Its basic needs are two:

- To draw together the government, business, labor, and civic leadership of the region in cooperative new forums to promote understanding of the region's problems and to harness their joint energies in solving them.

- To develop a continuing capability, in support of these cooperative public and private efforts, to analyze and evaluate economic conditions in the region and the potential regional impact of proposed national poli ies and programs.

In addition, there are a number of specific actions the states could undertake either singly or jointly to stimulate economic growth in the region. The findings from the study, together with the specific actions relating to them, follow:

TOWARD AN ECONOMIC DEVELOPMENT STRATEGY

Findings

1. The major problem of the Great Lakes states is the growing concentration of unemployed and low income people in its central cities and older manufacturing centers. This phenomenon stems from many causes ranging from the closure of older plants to the entrance into the labor force of the children from past waves of in-migration. The growth in jobs is just not keeping pace with the number of people seeking or needing employment.

2. Most of the decisions that influence the number and quality of jobs available to people in these older manufacturing centers are either in the hands of private enterprises or are heavily influenced by federal government policy. However, states and local governments do have significant powers to better the employment prospects of people living in these cities.

3. Local governments in these areas are facing a squeeze due to rising service costs and declining tax bases. The loss of industry, commerce, and office functions to suburban locations has contributed to an acceleration of the tendency for the poor to concentrate in the central cities, while those who are more able to do so leave.

4. The result of this flight has been the abandonment of property, closure of stores, and an underutilization of central city property. Under present circumstances it is difficult to reutilize this land economically.

Recommendations

Regional action:

1. Shared problems--Because of the highly interdependent nature of the regional economy, the six states share problems to varying degrees.

   Many of the same problems exist in specific locations in each of the six states. In most cases these problems can only be solved through specific actions by individual states or localities. However, regional cooperation

in identifying potential solutions to these problems and in pressing for federal aid or assistance in connection with them may frequently prove more efficient, less costly, and more productive than each state trying to "go it alone." The region's most challenging common problem is the economic redevelopment of its cities in transition.

2. Policy Analysis--The states should jointly undertake a policy analysis to promote better understanding of the impact of present and proposed federal programs and policies on the region's cities.

State action:

3. Local Government Structure--Each of the states should examine its statutes regulating local government to discover what provisions in them tend to promote the dispersal of settlement and financial inequity for central cities.

4. State Tax Laws--State tax statutes should be carefully examined to determine the extent to which any particular taxes (such as local sales taxes) discourage central city locations. Greater use of state-collected taxes returned to the local governments on the basis of need should be considered by the state legislators. Site value taxation and tax base sharing should be considered as enabling legislation for local governments.

5. Workmen's Compensation and Unemployment Compensation Laws--Each of the states should examine its Workmen's Compensation and Unemployment Compensation laws and conduct a detailed study to determine the advantages and disadvantages of nationalization of both of these programs for the Great Lakes region.

6. New Forums for Labor-Management-Government Discussions--The current adversarial relationship between management and labor, and business and government, must be changed. Mechanisms to do this include state and local level labor-management committees or councils, with government acting as a broker, bringing parties together and playing a third-party role. Initial thrust of this activity must include agreement on economic circumstances and problems.

7. Education--States should consider shifting education finance largely or entirely to state-collected taxes rather than local income and property taxes.

   Expansion of support for vocational and technical education should be conditioned upon its reorientation to meeting employer needs.

8. Urban Mass Transportation--The states should consider special financial assistance programs to permit urban mass transportation systems to better meet the needs of commuters going from center city homes to suburban job locations.

9. Land Use Review--Each Great Lakes state should undertake a comprehensive study of laws, incentives, and techniques that can facilitate land assembly for economic development. The study should be used to seek appropriate enabling legislation and to educate local officials in the principles and procedures of effective land assembly programs.

STIMULATING NEW INVESTMENT

Findings

1. Economic stagnation in this region stems primarily from the high death rate for industrial enterprises which is not now being offset by the expansion of existing business and the creation of new business by entrepreneurs, a traditional strength of this region and what brought it into economic prominence in past decades.

2. Funds for large-firm expansion are available in the national capital market. The lack of start-up funds and high-risk venture capital in this region is a reflection of a national phenomenon.

3. Funds for small business are one of the keys to new job formation in the region and a number of steps could be taken to enhance the availability of funds for such firms.

Recommendations

Regional Action:

1. Relaxing Portfolio Regulations--Because saving is being increasingly institutionalized and because financial institutions have significant constraints on the kinds of investments they can make, larger investment in high-risk firms could be obtained by relaxing portfolio regulations. For example, the Employee Retirement Income Security Act (ERISA) could be changed so that the "prudent man" rule applies to the total portfolio rather than to each investment.

   Senator Lloyd Bentsen introduced a bill in 1977 which would give managers of pension funds the leeway to invest two percent of the assets of their plan in companies with paid-in capital of less than $25 million or in venture capital firms which invest in such companies. This is the type of change required to increase funds for high-risk, potentially high-growth firms.

2. Incentives for Modernization--Federal incentives for modernization of plants should be examined for total impact, e.g., larger tax credits, higher depreciation allowances to add to internal sources of funds, the

tax treatment of dividends and capital gains. Special corporate tax treatment for small business has been proposed in the Senate Small Business Committee to increase the ability of these firms to grow through retained earnings. In addition, tax reform has been identified as a major legislative interest for the Carter administration. It is in the region's interest to ascertain which types of tax changes will benefit their industry most, for example, those for which the target is modernization.

3. Strengthening the Small Business Administration--The SBA could be strengthened so that it is a bigger source of dollars for small firms and for venture capital. An SBA task force has identified several areas for improvements, and legislation responsive to these suggestions has been proposed in the Senate Select Committee on Small Business.

4. Funds for Small Firms--The level of funds available for existing small firms in the region may be insufficient; an assessment of the sources and amount of funds available would be helpful. The reasons for the region's low share of SBA loans and SBIC activity ought to be determined. The effectiveness of technical assistance currently available from state government agencies, the SBA, and others may be blunted by a lack of awareness of the programs, and by confusion arising from the overlapping functions. Coordination among groups offering technical assistance and an ongoing effort to inform small businesses of the resources available could substantially assist marginal firms and increase the birth of firms in the region.

5. Study of Venture Development in the Region--In the Great Lakes region venture capital availability and the identification of entrepreneurs and their demand for funds are two topics on which there is little organized or easily accessible information. A study of these issues could considerably improve the region's development of new, potential high-growth enterprises. The dynamics of generating venturing activity are not well understood. There may be economies of scale from sharing among the states the existing knowledge about nurturing individuals who could become entrepreneurs and their fledgling firms. Perhaps high sales potential firms could be generated by an organized and sustained effort to make available to entrepreneurs the array of talents needed for a successful firm. Assistance in marketing entrepreneurs to venture capitalists and SBICs throughout the region could also be useful.

6. Information Clearinghouse--Set up a clearinghouse for dissemination of information on successful financing and economic development experiments. Although large cities in the region may keep in close touch, smaller cities and rural areas may especially benefit from more organized contact during which common problems and successful solutions can be shared.

7. Encouraging Foreign Investment--Joint ventures to encourage foreign investment in the region will directly and indirectly benefit all the states because of the employment and purchasing linkages. Joint ventures to encourage purchases of the region's products by foreign countries could generate more demand for the region's products.

State Action:

8. Branch Banking--Concentration in banking in a local area can lead to less competition among banks and result in a lower volume of loans through either high interest charges or a shared conservative lending policy. The flow of funds between banks can also be impeded by the structure of the banking industry. All states in the region except Illinois have limited branching laws. State-wide branching should be examined to determine if improvements in customer service and ease of transfer of funds from surplus to capital-starved banks outweigh disadvantages which could stem from potentially increased concentration of banking activity.

9. Broadening Charters of State Investment Institutions--Legislation allowing state-chartered savings and loans to invest in a wider variety of investments could increase the supply of credit to local businesses.

10. Easing State Licenses and Approvals Problems--Business firms would be more likely to locate new or additional facilities in the region if there were one person or agency responsible for coordinating the many agency approvals required before a plant is built. A streamlining of this process would reduce delay and uncertainty for firms.

11. Risk Pooling--Government, at both the state and local level, can take a leadership role in encouraging innovative techniques to rebuild decaying areas of cities and increase loan availability in rural areas. Risk pooling by banks and other financial institutions is one means of doing this.

12. Tax Incentives for Modernizing Industrial Plants--Revision of state tax laws which could give incentive to firms to modernize existing plants should be considered.

ENERGY AND THE FUTURE OF THE GREAT LAKES ECONOMY

Findings

1. Uncertainty of supply is the major energy problem. Because of their heavy concentration of manufacturing, the Great Lakes states are large fuel consumers. Consumption is approximately balanced among

coal, natural gas, and oil, although the six states vary considerably in their dependence on various fuels.

2. Although the region is a net importer of energy, it has abundant coal reserves; however, their high sulfur content presently impedes the full realization of their potential.

3. The availability and price of energy are, of course, highly dependent upon national energy policies. As both a major supplier and consumer of energy, federal government action in large measure will determine the ease with which this region can make the transition to higher priced fuels and a different mix of fuel use.

4. Federal policies on automobile fuel consumption will have a major impact on the region in both short term adaptation of automobile industry operations and in the mix of foreign and domestic automobile purchases.

Recommendations

Regional action:

1. Regional Posture on Federal Energy Price Regulation--Present regulation of the well-head price of natural gas produced for interstate shipment encourages consumption and provides little incentive for exploration and production for interstate shipment. While higher prices of natural gas will naturally affect consumers in the Great Lakes region, it is in the region's long-run interest that natural gas be priced to reflect its scarcity value.

2. Federal Research and Development on Use of High-Sulfur Coal--The federal government presently spends about $500 million on research related to the use of coal. It is important that the region understands how various dimensions of this research may affect use of its abundant reserves of high-sulfur coal. A study should be conducted to synthesize existing research on the technical and economic constraints of using high-sulfur coal and the present state-of-the-art and research efforts for dealing with existing constraints.

Several potential energy problems have regional dimensions which may merit interstate cooperation and pooling of resources. These areas relate to energy development and the impacts of national energy policy on the regional economy.

3. Research on Shale Oil and Gas Development--Because of the vast physical potential of the Devonian shale underlying the Great Lakes region, it is in the region's interest to promote federal research on the development and commercialization of this resource. Pooling of regional funds to supplement present levels of federal support may also be possible. It is recommended that the states seek additional federal support for acceleration of shale oil and gas development.

4. Research and Planning on Oil and Gas Drilling in the Great Lakes--The small amounts of oil and gas in the Great Lakes are potential regional energy sources of considerable controversy. Because of the potential benefit to the region and the potential impacts on certain local areas, it may be useful to conduct a broad regional assessment of the possibilities and constraints of development of this resource. The merits of a multi-state study (primarily Ohio and Michigan) should be explored.

5. Analysis of the Effects of Proposed National Energy Policy on the Great Lakes Region--Because of the dependence of this region's economy on the demand for automobiles, national efforts to increase auto fuel efficiency have major implications for the region. The auto-producing and supplier states should undertake a broad examination of implications for the region of the transition to more fuel-efficient automobiles.

   Some energy issues are best handled on a state-by-state basis, with interstate planning as appropriate.

6. State Planning for Energy Emergencies--Particularly in the area of natural gas supply, state economies are vulnerable to supply disruption. Although only Central Ohio experienced severe disruption during the extreme cold of early 1977, evaluation of contingency planning and methods for reducing the economic impacts of future weather-related shortages could be explored. Areas for expanded interstate cooperation in planning of storage and in exploration for new sources of gas are also subjects for consideration. An agenda of intra- and interstate topics should be developed for consideration by the individual states as appropriate.

TRANSPORTATION AND DEVELOPMENT OF THE GREAT LAKES REGION

Findings

1. Enhancement of the Great Lakes/St. Lawrence Seaway system can make an important contribution to the region's economy. Extensive studies are available on the feasibility of season extension and water levels regulation.

2. Enhancing river commerce also is important to the region. The major issues here are cost recovery on water commerce and extension of the locking capacity at some points.

3. Rail deterioration and abandonment are major concerns, particularly to smaller towns and manufacturing centers.

4. Enhancement of air facilities and service are needed to help some urban centers develop their full economic potential.

5. Although the interstate system is virtually complete in the region, giving it a good major highway network, some areas, particularly the North, remain isolated. There are problems with the secondary road and bridge capacity in some areas.

Recommendations

Regional Action:

1. Examination of Federal Regulatory Effects--The states should develop a broad-based position on impending federal regulatory changes affecting regional transportation.

2. Examination of Federal Financing--Similarly, the region should support changes in federal financing of water-based transportation which is relatively neutral between systems in terms of total private sector cost of using the system. Further, the region should encourage examination of the effects of federal financing on the distribution of bulk shipments between competing modes.

3. Interstate Rail Passenger Planning--Because of the number of potential high-density traffic corridors in the region, the states should explore ways in which they can facilitate the upgrading of intra- and interstate rail passenger service. Examples may include renovation of downtown stations, state support for upgrading railbed or joint federal-state programs to expand passenger service. Such efforts could serve the dual purpose of creating semi-skilled employment opportunities for the urban unemployed.

WATER AND FUTURE DEVELOPMENT IN THE GREAT LAKES REGION

Findings

1. Overall, water is one of the region's greatest development assets, especially when compared to the problems of the West; however, some areas do have problems of overutilization and supply shortages. Others have severe pollution problems that prevent further development of water-using industries.

2. The region's costs of providing adequate waste treatment facilities are now higher and are projected to be higher than other parts of the United States on a per capita basis, yet it is presently receiving less per capita than other areas from federal grants for sewerage treatment facilities.

Recommendations

Regional Action:

1. Review of Existing Studies--New studies should not be needed here because the water resources field has seen extensive studies (University Sea Grant programs, River Basin Commission Framework studies, Office of Water Resources Research grants, University Water Research Institute studies, not to mention a number of federal and state agency studies). Further work in this area for the Great Lakes region should be made only after careful consideration of present and past efforts. Multi-state efforts to synthesize and implement recommendations from previous planning efforts should take precedence over any new, large-scale regional studies.

2. Evaluation of Waste Water Treatment Assistance--The Great Lakes states received lower than average federal assistance for waste water treatment in 1976, but are projected to have above average treatment requirements. Before individual states begin efforts to secure additional federal support for waste water treatment, it is recommended that the total level of federal support prior to 1970 as well as budget authority for regional grants be determined. If the region is below the national average based on past and projected federal outlays, actions should be initiated to secure grants in proportion to EPA estimated needs.

AGRICULTURE AND RURAL COMMUNITY DEVELOPMENT

Findings

1. While other sectors of the economy overshadow agriculture in the Great Lakes economy, farming employs over a million of the region's people directly. More significantly, agri-business remains one of the cornerstones of the region's economy and its performance will continue to be one of the important components of overall economic health of the region.

2. Like farmers and ranchers everywhere, the agricultural community in the Great Lakes is caught in a cost-price squeeze. Prices for all of the inputs to a farming operation--land, machinery, seed, fertilizer, and labor--continue to rise. Prices for farm products, however, not only are not keeping pace with costs, they also vary substantially from year to year.

3. Changes in the buying and selling patterns for agriculture have left many rural farm market communities behind. Farmers do their buying both for family and farm operations in the larger cities.

Recommendations

State Action:

1. Land Prices--Land prices have soared in the region, not only due to the pressures of alternative urban uses, but also because of its intrinsic farming value. Much of the land in this region is prime agricultural land. It is more productive per acre. It is close to markets and processing plants. One of the region's major interests, therefore, is to protect its agricultural land. Land use laws should be examined with this in mind. Several options are available for protecting such lands, including real estate tax relief and the purchase of development rights.

2. Inheritance Tax--Farm values have increased tremendously relative to their income growth, not only because of the increased value of the land but also due to the value of equipment and buildings. Transferring a family farm from one generation to another has become prohibitive in many cases because of inheritance taxes. The federal law was recently modified to ease the burden of such transfers. Lower inheritance state rates have been suggested, but even a provision for extended payment of existing rates would help. Furthermore, a purchase of development rights program in urbanizing areas would reduce farm values for farm purposes and make it more feasible to transfer farms from one generation to another.

3. Industrial Development for Non-Metropolitan Communities--Former farm market communities obviously face the problem of diversifying their

economic base or dying. This suggests an industrial development priority for the Great Lakes states. Fortunately, the trend in the location of manufacturing facilities outside metropolitan areas works in their favor. States will need to set priorities to maximize the effectiveness of available community facilities funds. Not every small town can become a manufacturing center.

Second, the growth now being enjoyed by non-metropolitan areas across the country is in large measure dependent upon cheap automobile transportation and truck transportation. A rapid increase in gasoline prices to $1.00 a gallon would work a very severe hardship on rural communities and rural commuters. Developing and carrying out plans for rural mass transportation systems is, therefore, another way in which state governments can assist rural communities.

FEDERAL FUNDS IN THE GREAT LAKES REGION

While the "balance of payments" issue has received more attention than any other aspect of the development problems of both the Great Lakes states and the Northeast, this issue is not only clouded by inadequate statistics but also misses the more important concern for this region. It is not the gross balance of payments, but rather whether present federal programs are well designed to be responsive to the changing needs of this region. This requires a program-by-program examination. The sewerage treatment grant program and research and development funds represent two examples of clearer claims for additional funds for this region.

ORGANIZING FOR GREAT LAKES ECONOMIC ACTION

The survey identified a number of common problems shared by the states and communities of the region and a high degree of economic interdependence. However, there is no overwhelming need and little sentiment for regional government. The need is for a new mechanism to bridge the present gap between the public and private leadership of the region and raise the level of understanding of the region's problems and interdependence.

INTRODUCTION

Concern over lagging employment growth in the economy of the Great Lakes states prompted the formation of the Committee for Great Lakes Economic Action by the Governors of the six Great Lakes states--Illinois, Indiana, Ohio, Michigan, Minnesota, and Wisconsin. The Committee, consisting of key state development officials appointed by the Governors, was directed to determine whether there were problems requiring regional cooperation and what types of actions might be initiated and jointly undertaken by federal, state, and local governments with private interests in the region. The present study, carried out by The Academy for Contemporary Problems on behalf of the Committee, was funded by the Office of Economic Research of the Economic Development Administration, U.S. Department of Commerce. The Academy was to carry out the following tasks (the relevant sections of this report are noted in parentheses):

Summarize Economic Development Issues in the Great Lakes Region (Sections II, III, IV, V, and VI);

Assess Extant Knowledge and Research on the Great Lakes Economy (Sections I, II, and III and Appendices A, B & C);

Summarize Economic Development Options and Opportunities in the Great Lakes Region (Sections V and VI);

Recommend Elements, Timing, Sequencing, and Cost for an Economic Development Strategy in the Great Lakes Region (Sections IV, V, & VII);

Recommend Organization Framework for Carrying Out an Economic Development Strategy in the Great Lakes Region (Section VII);

Inventory the Public and Private Organizations and Individuals Capable of Carrying These Elements (Appendix C);

Develop a Bibliography of Research on the Great Lakes Region (Appendix B); and

Develop an Assessment of Research Capabilities in the Great Lakes Region to Conduct Regional Economic Research for the Region (Appendix C).

SURVEY METHOD

This survey was designed to weave together two separate streams of information: the first derived from the perceptions of business, government, labor, and civic leaders concerning the region's problems and needs; the second from an economic and demographic analysis of the Great Lakes region. The two were then brought together to contrast and evaluate the factual information available with the perceptions of those making decisions in the region.

The surveys of the region were carried out by first bringing together key state officials in each of the participating states to discuss their views on each state's economic problems and potentials. These constituted an initial set of findings on the region's problems. The states then arranged a series of interviews with leaders in business, labor, and public affairs. Some of these were individual interviews with business and labor leaders; others were small group meetings. In both cases, those interviewed were asked to react to the initial findings on the region's problems and were then asked to contribute their views about what needed to be done to solve those problems and to enhance the economic well-being of the region.

The economic and demographic analysis consisted of an intensive review of existing research and data supplemented by original research concerning economic interdependencies in the six-state region. This latter work permitted simulation of the impacts of potential shifts in supply or demand for some of the region's products on the Great Lakes regional economy.

Part One describes the economic challenges facing the Great Lakes region. Part Two sets forth some potential initial strategies for attacking these problems and stimulating the regional economy.

In Part One, Section I describes the development of the economy of the Great Lakes states and the present linkages within the economy of the region. This section explains why, in crafting solutions to the region's problems, it may be viewed legitimately as an economic region--the manufacturing heartland of the United States--rather than six separate state economies.

Section II turns to the specific problems of the economy of the Great Lakes states: The shift of manufacturing employment away from urban areas; the regional dispersion of manufacturing; the region in world competition; slow growth in regional employment; the impact of low national growth rates; the growth of the region's labor force; and population and migration changes.

Section III discusses the factors influencing the Great Lakes competitive position in the national economy--the costs of energy, taxes, direct and indirect Labor costs.

In part Two, Section IV offers a strategy for regional development to address both the shared and common problems of the Great Lakes states identified in the Survey. It proposes the development of a continuing policy analysis capability concerning common problems confronted by the six states and the development of an expanded committee on regional development that would bring together government, business, labor, and civic leaders in a forum for common action on the region's problems.

Section V addresses the central common economic development problem of the region--the transitional difficulties of the region's industrialized cities.

Section VI reviews the shared difficulties of the region's industrialized cities number of courses of action the states could take singly or jointly in dealing with them.

Chapter A suggests ways states could lower the cost of doing business including tax changes and changes in the unemployment and Workmen's Compensation laws.

Chapter B proposes the creation of labor-management-government forums to promote understanding of the region's common problems and promote joint actions in solving them.

Chapter C discusses assets and liabilities of the region's public education systems and the roles they play in economic development.

Chapter D treats the central issue of providing more risk capital to stimulate the expansion of business in the region and to encourage the creation of new enterprise.

Chapter E details key concerns over future energy supply and costs in the region.

Chapter F reviews the problems and potentials of the various modes of transportation.

Chapter G is concerned with one of the region's greatest development assets--water.

Chapter H discusses the key problems of agriculture in the region.

Chapter I is devoted to the major issue of the flow of federal funds into the Great Lakes states.

Section VII, the final section, discusses organizational options available to the six Great Lakes states.

PART ONE

ECONOMIC PROBLEMS IN THE GREAT LAKES REGION

I.

THE GREAT LAKES STATES AS AN ECONOMIC REGION

The area extending around the lower rim of the Great Lakes is the premier heavy manufacturing region of the United States. It produces more than half of the nation's steel, two-third's of the country's autos and parts, 40 percent of American primary metals, fabricated metals, and machinery (Table 1).

The ore fields of Minnesota feed the steel mills of Illinois, Indiana, Ohio, and Michigan. Those steel mills in turn feed the engine and turbine industries of Wisconsin. Computers made in Minnesota are used by the auto industry of Michigan, Ohio, and Indiana.

If the western region of New York centered on Buffalo and the Greater Pittsburgh region of Pennsylvania are included, this section of the United States between the Appalachian Mountains and the Mississippi and between the Great Lakes and the Ohio River is indeed the American Ruhr, the nation's industrial heartland (Figure 1). With 22 percent of the U.S. population, it produces almost 40 percent of the total value of American manufacturing output. It is a uniquely distinct economic region of the United States.

Location and Resources

The growth of this mammoth complex was partly the result of its strategic location in early national development and partly the consequence of its rich natural resources--land for agriculture; timber for houses, boats, and cities; iron ore, coal, limestone, and other minerals for the development of infant industries. The Great Lakes and the Ohio River made it comparatively easy to open up these territories to early development and commerce.

As the resources were here, it made sense to locate early processing industries here, especially as the population of the United States was moving westward and most early processing industries involved large reductions in the weight

TABLE 1.

GREAT LAKES EMPLOYMENT CONCENTRATIONS
BY INDUSTRY GROUP, 1973

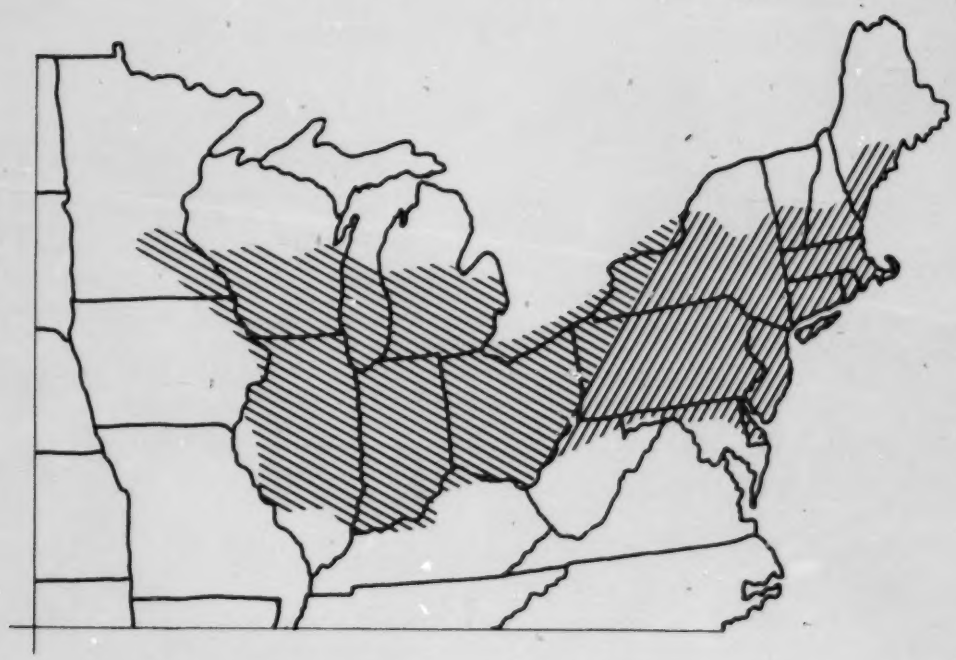
Type of Product	S.I.C. Code	Industry	Great Lakes as percent of U.S.
D	19	Ordnance and accessories	14.8
ND	20	Food and kindred products	23.2
ND	21	Tobacco manufactures	1.8
ND	22	Textile mill products	2.8
ND	23	Apparel and related products	7.2
D	24	Lumber and wood products	13.0
D	25	Furniture and fixtures	20.9
ND	26	Paper and allied products	26.8
ND	27	Printing and publishing	26.4
ND	28	Chemicals and allied products	21.2
ND	29	Petroleum and coal products	19.6
ND	30	Rubber and plastics products, N.E.C.	34.8
ND	31	Leather and leather products	14.8
D	32	Stone, clay, and glass products	26.1
D	33	Primary metal industries	41.9
D	331-2	Primary steel	51.2
D	34	Fabricated metal products	39.4
D	35	Machinery, except electrical	41.6
D	36	Electrical machinery	30.8
D	37	Transportation equipment	40.9
D	371	Automobiles and parts	66.4
D	38	Instruments and related products	22.8
D	39	Miscellaneous manufacturing	21.5

D = Durable Goods
ND = Non-Durable Goods

Source: County Business Patterns, 1973.

The Manufacturing Belt, 1975

58 Percent of Manufacturing in U.S.A.



Concentration of Durable Goods Mfg.
Concentration of Non-Durable Goods Mfg.

Source: Academy for Contemporary Problems
Great Lakes Input-Output Analysis

FIGURE 1.

of raw materials to finished products. It just did not make economic sense to ship raw materials. For these reasons, the iron and steel industry developed here. Sand and then natural gas brought the glass industry. Timber brought the lumber industry. These represented the beginning of the Great Lakes industrial complex. As raw materials made it logical to locate primary processing in the region, likewise it was frequently more efficient for those who used these primary products to also locate here. Lumber brought the wagon and carriage industry. Iron and steel brought fabrication, tool and die, and machinery industries. In almost every case, it was cheaper to ship the raw materials to a nearby processing plant and then to ship the finished goods to markets further away.

Self-Sustaining Industrialization

When the automobile industry developed in the region, basically as an outgrowth of the carriage and wagon manufacturing industry, its suppliers--in the form of sheet steel, glass, machine tools, rubber, and component parts--were located here too. By this time, the region had developed beyond its original natural resource base and its further growth was spurred by the self-sustaining growth of this industrial core. A skilled labor force in durable goods manufacturing developed in the Great Lakes region unrivaled elsewhere in the nation.

Agriculture

Agriculture made its own special contribution to the region's development as well. The great food-producing region of the American Middle West begins here and extends to the Rocky Mountains. As the land was cleared, this region--essentially now the eastern corn belt of the United States--became one of the richest agricultural centers in the nation. The dairy products exchange in Elgin, Illinois, at one time set national prices for milk, butter, and eggs. It made sense to manufacture farm machinery here. It made sense to process farm products here. Hogs and cattle were fattened, slaughtered, and dressed for

final markets. While Chicago was once the best known and largest example of the latter, many other regional cities performed similar functions. Minneapolis became the major milling center for the nation's wheat, and by-products, such as animal fats, were used to make soap in Cincinnati.

The Great Lakes economy became its own best market as the region's industrial complexion and diversity advanced. Because of immense population growth, it became its own best market for its automobiles, its own processed food, its own timber, and its own beer.

THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS

Throughout its history and up to the present, students of the Great Lakes economy have subdivided the region into its component parts (Figure 2):

- The Corn Belt: The eastern half of a broad sweep of extremely productive agricultural land, beginning in the Appalachian foothills and extending in a widening band westward to eastern Nebraska, Kansas, and South Dakota.
- The Ohio Valley Province: The coal field and chemical river economies of southern Ohio and Indiana, and southern and western Illinois.
- The Northern Forest and Mineral Belt: The extractive, shipping, and recreation economies of northeastern Minnesota and northern Wisconsin and Michigan.
- The Northern Wheat Belt: The eastern margin of the Northern Plains wheat belt.
- The Lower Great Lakes Industrial Belt: The western, heavy industry half of our national Manufacturing Belt stretching from Cleveland to Milwaukee.

Of the five major subregions, this Industrial Belt clearly dominates the economy of the six-state region. It has the lion's share of the Great Lakes region's durable goods manufacturing industries, most of its large cities, and almost 60 percent of its 1975 population. It is in this core industrial area of

GREAT LAKES SUBREGIONS

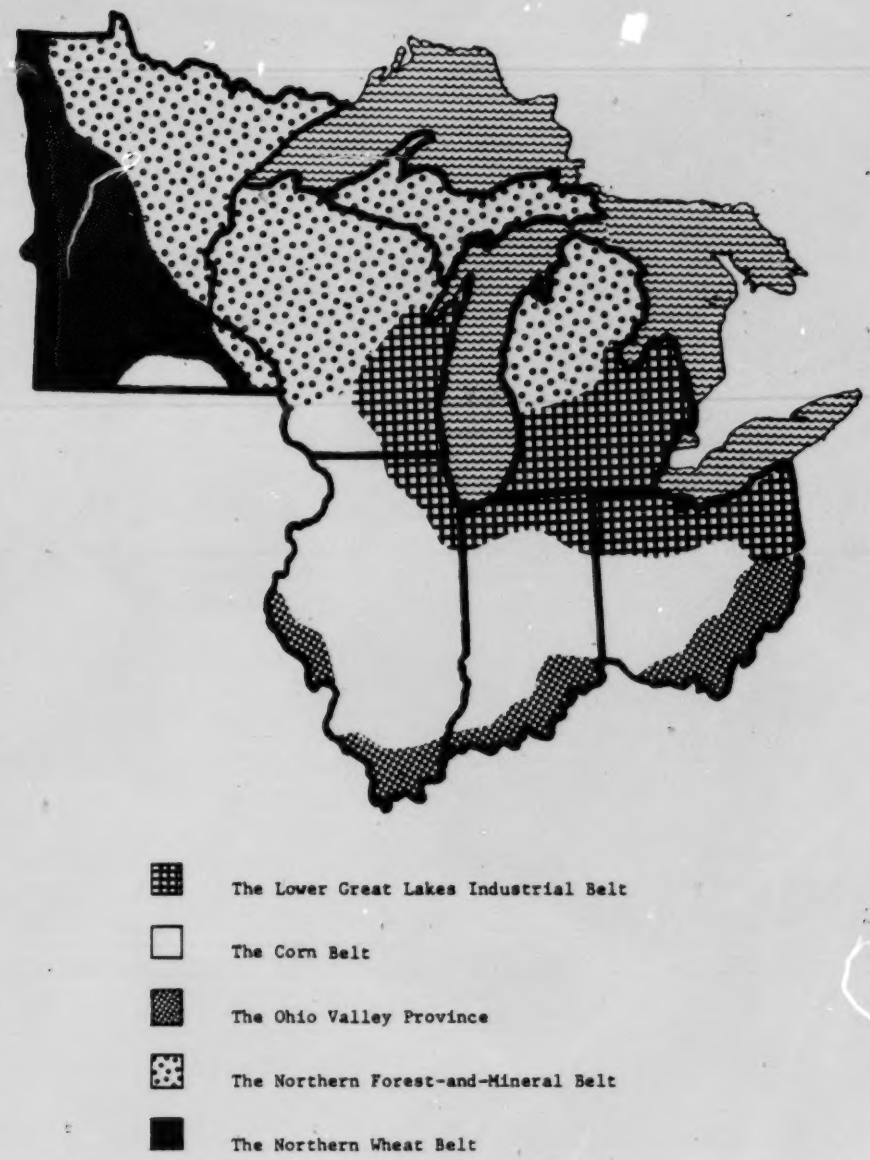

The Lower Great Lakes Industrial Belt
The Corn Belt
The Ohio Valley Province
The Northern Forest-and-Mineral Belt
The Northern Wheat Belt

FIGURE 2.

the Great Lakes region that the most severe economic adjustment problems affecting the largest number of persons have been emerging. The economic interrelationships within this industrial belt pay little heed to state lines. It is a highly integrated manufacturing complex, easily the most closely linked economic region in the U.S.

The six-state region buys and sells much more to its own industries and people than it does to the rest of the nation and the rest of the world combined. Detailed estimates of regional interindustry relationships* indicate that almost 82 percent of regional intermediate industry requirements are satisfied by regional output. Similarly, regional plus foreign exports of regionally-produced goods and services account for only 20 percent of the Great Lakes region's total output, while only 22 percent of intermediate and final requirements come from outside the region's domestic or international borders. This is why what happens in Ohio is important to Illinois, what happens in Michigan is important to Indiana, etc.

THE CONSEQUENCES OF REGIONAL ECONOMIC INTERDEPENDENCY

We can see the intricacy of these linkages by tracking the impact of potential shifts in supply or demand for key regional products.

Selling Fewer Automobiles

A temporary or permanent reduction in the sales of one of the region's key products, automobiles, has occurred in the past and could happen again, for a number of reasons. Foreign competition could continue to erode the domestic market. In the 1960's, foreign cars comprised 5.8 percent of the value of domestic production. In the first six and a half years of the

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* See Appendix A, which includes the Great Lakes input/output table.

1970's, foreign cars accounted for 25.9 percent of the value of U.S. auto production. Gasoline price increases could move the nation back to single car families and mass transportation. Auto production, partly as a result of national recession, dropped about 25 percent in each of the two years following the oil embargo, with substantial negative impacts on the Great Lakes economy. To examine the effects of a 10 percent decline in national final demand for automobiles, a simulation was performed with the 1975 Great Lakes input/output model.* The 10 percent decline in auto production would result in over 85,000 job losses in the region's auto industry, but more than 169,000 other jobs would be lost through indirect multiplier effects on suppliers and on those whose income is in any way dependent upon auto sales. The total of 255,000 job losses and a $13.4 billion decline in total regional output would be in excess of three times the effects felt elsewhere in the national economy as a result of the 10 percent decline in national final demand for cars.

Reducing the Weight of Automobiles

For better fuel economy, a reduction by 700 pounds in the average weight of American-made automobiles is already underway. Most of this reduction in weight will be achieved by lowering the amount of steel in American cars, presently about 55 percent, or 2200 lbs., of the total 4000-pound curb weight of an average car. To simulate the results of such a change, the regional steel input

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* A detailed explanation of the simulation and its results can be found in Appendix A.

coefficient to the motor vehicle industry was adjusted (after removing trucks and buses) to reflect the almost one-third decline in steel usage (700 lbs./2200 lbs.) per average auto.

The results of the simulation indicates a regional employment loss in excess of 30,000 jobs, 20,000 of which are in the region's steel industry, and a $1.44 billion decline in total regional economic activity. Again intra-regional impacts are far in excess of impacts outside the region.

Steel Plant Closures

The loss of jobs in the steel industry is not hypothetical. It is happening. The Youngstown Sheet and Tube Company recently announced that 5,000 people would be laid off in its Campbell, Ohio plant. Another 800 steel workers in Middletown, Ohio, were laid off two days later. A simulation of the effects of the closing of the Youngstown plant shows that, in addition to the 5,000 direct job losses in the steel industry, there is an additional loss of 7,000 regional jobs outside the steel industry, most of which could be expected to take place in Ohio. Each direct Ohio job loss results in an additional 1.2 job losses in the region's labor force as well as a $526 million loss in total regional output.

Curtailment of Natural Gas Supplies

Another real prospect for the region is a curtailment in its natural gas supplies. Great Lakes businessmen who use natural gas in their manufacturing process are worried first about interruptions in supply or reductions in amounts of gas available, then about price.

A gas supply cut-back of 10 percent across all manufacturing industries in the region for a five- to six-week period would bring about a temporary loss of

over one million jobs or an annualized employment reduction of 103,000 regional jobs. Total regional output would decline by $4.7 billion for the year, about half of which could be made up by utilizing excess capacity once the shortage was over. Still, the temporary losses are real losses: to individual workers who must dip into savings or borrow in the absence of a full paycheck; to salesmen and wholesalers whose commissions are reduced, temporarily or otherwise; to truck drivers who do not get paid for want of goods to haul, etc. In a highly integrated economy, it does not take long for the ripple effects to be felt.

ECONOMIC LINKAGES TIE THE REGION TOGETHER

The impact analyses summarized above indicate the strength of the economic interrelationships among the industries of the region, but can these relationships be bounded in any geographical sense? The Midwest steel belt certainly stretches east to include Pittsburgh and up along Lake Erie to include Buffalo. The corn and wheat belts stretch far to the West. Certainly, no claim can be made that the six Great Lakes states are homogeneous on all measurable scales and that the problems and economic relationships are evenly distributed across all of them. In terms of the automobile and steel simulations, there are noticeable exceptions--Minnesota and Wisconsin do not have large primary steelmaking capacities, with only 5.4 and 1.3 percent respectively of the region's total steel output. But, Wisconsin does produce 37 percent of the region's engines and turbines, the large majority of which find their way into a complete range of industries which support, directly or indirectly, the impacted industries. The Mesabi taconite ores of Minnesota feed the steel mills of Indiana, Illinois, Michigan, and Ohio. The Honeywell and Control Data computers assembled in Minnesota are used by the auto

industry, the steel industry, and many of the industries which directly or indirectly support the steel and auto industries. The list is almost endless.

The critical point that must be understood is that the six-state economy has to be looked at in its entirety. Where there are industry-by-industry exceptions in terms of concentrations of particular products and services in each of the states, the "noticeable exceptions" commonly pointed out are severely weakened when tested by a rigorous analysis capable of describing the complexity and totality of the transactions that take place in the Great Lakes economy -- from the mining of the iron ore to its ultimate transformation into part of a microwave oven in an Indianapolis kitchen.

II

PROBLEMS IN THE GREAT LAKES REGIONAL ECONOMY

The Great Lakes regional economy is highly diverse.

Rural Problems

One of the most important agricultural areas in the nation, farmers and agribusiness in the region, along with those in other sections of the nation, are buffeted by the fluctuating demand and prices in world as well as national markets for food and fiber. Its resource and tourism-based sub-areas in northern Minnesota, Wisconsin, and Michigan have had special problems of economic distress for decades. These problems in the nonmetropolitan sections of the Great Lakes region require continuing attention.

Urban Industrial Problems

Nonetheless, this Survey finds that the very special, comparatively new economic challenges confronting the region are the transitional difficulties posed for the region's most populous urban areas in the face of fundamental locational and structural shifts occurring in manufacturing employment, particularly in the durable goods industries in which the Great Lakes region has for so long specialized. In summary, these shifts include:

(1) A dispersal of new manufacturing employment out of central cities and urban areas, in general, into exurban nonmetropolitan centers causing acute financial, physical, and human problems in the region's older manufacturing cities;

(2) A dilution of the traditional locational advantages of the Great Lakes region by today's national transportation and communications systems that enable firms to be more "footloose" in their location than earlier in our history;

(3) Rigorous new competition from foreign firms for American and world markets conbined with a dispersal of the production of labor-intensive products to cheap labor locations overseas;

(4) Slow employment growth rates in the region making it difficult, if not impossible, to absorb manufacturing workers displaced by modernization as well as new workers entering the labor force;

(5) Slow national economic growth rates which translate into lower demands for goods produced in the cyclically highly sensitive Great Lakes economy;

- Leading to a level of overall job-generation in the region too low to absorb the natural increase in the region's labor force and a national rate of employment growth too low to enable many Great Lakes workers to find employment in other parts of the nation;
- Resulting in near-cessation of net in-migration to the traditional industrial centers of Michigan, Ohio, Indiana, and Illinois, while out-migration is also impeded for lack of sufficient opportunity elsewhere. The result is high levels of unemployment among the traditional work force in the region's historic manufacturing centers compounded by the intransigent problems of hard core joblessness among the poor in the central cities.

Cooperative Federal and Regional Action Required

These problems clearly indicate that stimulation of the Great Lakes economy will require actions at several levels if the region's job growth is to match the natural increase in its labor force:

(1) Overall success will depend upon restoration of a sufficiently high level of national economic growth to make full use of the region's productive capacity. A number of national and international constraints will make this difficult to accomplish. Meeting this objective is primarily a matter for federal policy.

(2) Successful structural adjustment within the region will depend, however, upon a carefully orchestrated series of actions taken by the state and local governments of the Great Lakes region in cooperation with business and labor with full support and assistance from the federal government.

(3) If an adequate level of new job generation and firm formation in the region is to be restored, the Great Lakes region can no longer expect to rely upon its natural advantages of location, ample resources, and skilled labor done. It must

compete with the rest of the world in the costs of doing business here, the quality of services provided, the amenities of living, the cooperativeness of government, and the general environment for creative investment and economic development.

A.

A SHIFT OF NEW MANUFACTURING EMPLOYMENT AWAY FROM URBAN AREAS

In contrast with the past, manufacturing employment is no longer growing in metropolitan areas, but in nonmetropolitan areas. From 1966 to 1973, over 97 percent of the region's increase in total employment took place in the region's metropolitan areas (SMSA's) and 68 percent of the increase in Great Lakes' total employment took place in the region's SMSA's with more than one million in population (Table 1).

Ex-urbanization of Manufacturing Growth

The pattern for manufacturing employment change over the same period is completely opposite, however. In the Great Lakes region, five of the metropolitan areas of over one million population actually lost manufacturing employment, with only Minneapolis, Cincinnati, and Columbus showing absolute gains. While the large metro areas were losing 12,500 manufacturing jobs, the smaller metropolitan areas were gaining 38,000 jobs. Most important however, is the fact that, of the 165,200 manufacturing job gains in the region over the 1966-1973 period, only 25,500 were in metropolitan areas; thus, almost 140,000 manufacturing jobs were realized in "exurban" areas (Table 2).

This is a national pattern. The Conference Board points out that in the industrial North, 70 percent of manufacturing jobs are located in the cities, reflecting the fact that, during the late 19th and early 20th centuries, factories had to be close to workers. The impact of modern transportation on this pattern becomes evident when we note that only 8.3 percent of the newer manufacturing employment of the South is located in cities.

This shift from urban to exurban location in manufacturing employment growth has profound implications for many of the Great Lakes region's urban areas. The vast majority of the 58 metropolitan areas in the region have an employment

TABLE 1.

GREAT LAKES: TOTAL EMPLOYMENT,
MANUFACTURING EMPLOYMENT CHANGE, 1966-1973

Area	Total Employment Change 000's of Jobs	Total Employment Change Percent	Total Manufacturing Change 000's of Jobs	Total Manufacturing Change Percent
Illinois	+ 389.3	+11.6	- 5.3	- 0.4
Indiana	+ 241.7	+17.2	+ 47.8	+ 6.9
Michigan	+ 311.9	+13.2	+ 11.3	+ 1.0
Minnesota	+ 241.2	+27.9	+ 42.7	+15.7
Ohio	+ 463.2	+15.9	+ 51.9	+ 3.8
Wisconsin	+ 204.9	+18.5	+ 16.9	+ 3.4
Great Lakes	+ 1852.2	+15.4	+165.2	+ 3.1
United States	+10541.0	+20.8	+996.7	+ 5.3
Great Lakes: SMSAs				
SMSAs > 1 million	+ 1259.7	+19.8	- 12.5	- 0.5
SMSAs .5 to 1 million	+ 180.4	+13.0	+ 14.3	+ 2.0
SMSAs < .5 million	+ 368.8	+16.8	+ 23.7	+ 2.3
	+ 1808.9		+ 25.5	

Source: County Business Patterns.

TABLE 2.

GREAT LAKES REGION SMSAs: TOTAL EMPLOYMENT, MANUFACTURING EMPLOYMENT CHANGE, 1966-1973

	Total Employment Change		Manufacturing Employment Change	
	000's of Jobs	Percent	000's of Jobs	Percent
SMSA's > 1,000,000 Population				
Chicago	+239.3	+10.0	-21.9	- 2.3
Detroit	+142.0	+11.0	- 8.5	- 1.4
Minn.-St.Paul	+155.5	+27.7	+25.4	+13.6
Cleveland	+ 51.0	+ 7.5	- 8.9	- 2.9
Milwaukee	+463.4	+12.0	- 9.0	- 4.1
Cincinnati	+ 73.0	+19.2	+ 6.4	+ 4.1
Indianapolis	+ 33.2	+16.3	- 1.4	- 1.1
Columbus	+ 82.3	+30.5	+ 5.4	+ 5.6
	+1.259.7	+19.8	-12.5	- 0.5
SMSA's Between 500,000 - 1,000,000 population				
Dayton	+ 30.2	+12.5	- 0.2	- 0.2
Toledo	+ 42.3	+22.0	+10.0	+11.7
Akron	+ 22.4	+12.0	- 0.1	- 0.1
Gary-Hammond-E. Chicago	+ 18.5	+10.0	+ 2.3	+ 2.2
E. St. Louis	+ 2.3	+ 2.0	- 8.7	-16.4
Grand Rapids	+ 32.4	+20.5	+ 7.2	+10.0
Youngstown-Warren	+ 26.6	+17.5	+ 9.5	+11.9
Flint	+ 5.7	+ 3.8	- 5.7	- 6.4
	+180.4	+13.0	+14.3	+ 2.0
SMSA's < 500,000 population				
Lansing-E. Lansing	+ 19.1	+20.3	+ 2.0	+ 4.6
Canton	+ 12.5	+11.1	- 2.1	- 3.3
Fort Wayne	+ 27.1	+23.1	+ 7.5	+13.8
Davenport-Rock Island-Moline	+ 10.3	+10.0	- 2.2	- 4.6
Peoria	+ 22.9	+22.7	+ 4.3	+10.0
Madison	+ 20.4	+31.2	+ 1.6	+10.7
Evansville	+ 18.6	+22,6	+ 4.6	+12.6
Appleton-Oshkosh	+ 9.0	+11.8	- 6.8	-15.2
South Bend	+ 10.1	+12.3	- 2.0	- 5.7
Rockford	+ 12.0	+13.2	+ 1.8	+ 3.5
Lorain-Elyria	+ 12.5	+21.0	+ 2.6	+ 7.2
Duluth-Superior	+ 5.0	+ 8.3	- 3.3	-24.2
Kalamazoo-Portage	+ 9.8	+14.5	- 0.6	- 1.7
Ann Arbor	+ 16.7	+27.7	+ 5.6	+17.0
Hamilton-Middletown	+ 7.3	+13.7	+ 1.6	+ 5.8
Saginaw	+ 9.2	+14.8	+ 4.0	+13.0
Lima	+ 8.3	+15.3	+ 2.2	+ 8.3
Springfield, OH	+ 7.5	+18.6	+ 1.6	+ 8.0
Battle Creek	+ 4.1	+ 8.4	+ .04	+ .2
Springfield, IL	+ 8.1	+17.1	- 1.7	-14.5
Muskegon-Musk. Hgts.	- 1.6	- 3.4	- 6.4	-22.8
Terre Haute	+ 7.8	+20.6	+ 0.9	+ 6.6
Racine	+ 11.9	+28.4	+ 6.4	+28.4
Steubenville-Weirton	- 0.4	- 0.7	- 1.8	- 5.7
Champaign-Urbana-Rantoul	+ 7.8	+28.3	+ 0.5	+10.1
St. Cloud	+ 8.5	+42.8	+ 2.2	+42.2
Jackson	+ 2.4	+ 5.7	- 1.8	- 8.7
Anderson	+ 1.8	+ 4.1	- 1.8	- 6.1
Mansfield	+ 7.0	+16.7	+ .2	+ 1.0
Muncie	+ 4.1	+11.7	- 0.4	- 2.3
Moorhead, MN	+ 8.9	+34.6	+ 1.0	+46.2
Decatur	+ 5.3	+13.4	+ 1.8	+10.1
Eau Claire, WI	+ 7.6	+32.5	+ 1.7	+19.2
Kenosha, WI	+ 0.5	+ 1.8	- 2.9	-15.9
Bay City, MI	+ 3.3	+13.0	- 0.9	- 7.3
Bloomington-Normal, IL	+ 7.7	+30.0	- 0.3	- 4.6
Lafayette-W. Lafayette, IN	+ 6.4	+24.4	+ 2.1	+20.3
Green Bay	+ 12.5	+32.4	+ 3.7	+25.7
Kankakee, IL	+ 3.0	+12.2	- 0.9	- 7.1
Bloomington, IN	+ 3.6	+17.1	- 0.4	- 2.9
Rochester, MN	+ 6.2	+27.0	+ 0.6	+11.2
La Crosse, WI	+ 4.0	+17.6	- 0.5	- 5.3
	+368.8	+16.8	+23.7	+ 2.3

Source: County Business Patterns.

TABLE 3.

ONE INDUSTRY TOWNS*

Machinery, except Electrical -
Racine, Davenport-Rock Island-Moline, Decatur, Rockford and Muskegon.

Paper and Allied Products -
Green Bay and Appleton-Oshkosh.

Electric Equipment and Supplies -
Mansfield and Fort Wayne.

Primary Metals -
Huntington-Ashland, Steubenville-Weirton and Youngstown.

Fabricated Metals -
Rockford.

Rubber and Plastic Products -
Akron.

Transportation Equipment -
Lima, Flint, Ann Arbor, Detroit, Fort Wayne, Indianapolis, Muncie, South Bend, Lansing and Saginaw.

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* A one industry town is one in which 35 percent or more of total manufacturing employment is in a particular industry group

Source: County Business Patterns.

percentage in manufacturing higher than the national average (Table 3). Of the eleven cities that do not, nine are state capitals or university towns. The capitals and university towns are the same cities that have the fastest growth rates, the highest percentage of new housing, and the lowest unemployment rates in the Midwest. That is no coincidence. These cities mirror the economic and social profile of the post-industrial economy into which we are now moving.

Problems of Industrial Urban Areas and Towns

But the majority of the manufacturing-based cities in the Great Lakes are facing serious problems. They are burdened with obsolescence and blight. They have inherited a large population of poor from the South-to-North migrations of previous decades, many of whom are now trapped economically and socially by the steady exodus of employment from the central cities. These same cities are, in turn, required to provide public services at increasing cost at the same time that their local tax base is beginning to deteriorate. As manufacturing employment continues to locate in nonurban areas and to substitute capital for labor as it modernizes, many of the manufacturing-based urban areas can expect increasing difficulties.

Because of their high concentrations of cyclically-sensitive employment, these urban areas are much more vulnerable to the ups and downs of the national business cycle than more broadly-based cities elsewhere. Previous studies indicate that cyclical unemployment in the region leads the nation by about two months. In the case of Youngstown, Steubenville, Wheeling, Gary, and Muskegon, the lead time is almost four months. An illustration of the results can be found in the 1969-1970 recession period, which centered mainly on curtailments in manufacturing and military activities. The effects are mirrored in the Standard Metropolitan Statistical Areas with the fastest and slowest income growth (Table 4). In eleven of the sixteen bottom ranking Great Lakes states SMSA's, drops of five to 25 percent in manufacturing earnings (25-50 percent of total earnings in these areas), had a substantial impact

TABLE 4.

Distribution of SMSA's by Percent Change in Personal Income, 1969-70

Change Percent	United States	New England	Mideast	Great Lakes	Plains	Southeast	Southwest	Rocky Mountain	Far West	Alaska and Hawaii
12.0 and more	16	—	—	—	—	9	4	—	2	1
10.0 to 11.9	33	1	5	2	1	7	11	4	1	1
8.0 to 9.9	61	1	10	4	4	21	5	5	11	—
6.0 to 7.9	84	12	16	12	9	18	7	1	9	—
4.0 to 5.9	33	—	2	15	4	7	2	—	3	—
2.0 to 3.9	16	—	—	12	1	2	1	—	—	—
0 to 1.9	4	—	—	2	—	—	1	—	1	—
0 to −1.9	3	—	—	1	—	2	—	—	—	—
−2.0 to −2.9	1	—	—	1	—	—	—	—	—	—
−3.0 and less	2	—	—	—	—	2	—	—	—	—
Total	253	14	33	49	19	68	31	10	27	2

7.1 = U.S. average

Source: Survey of Current Business.

on total income. The high growth SMSA's are decidedly less reliant on manufacturing earnings. Looking at the performance of all the nation's 253 Standard Metropolitan Statistical Areas during that recession period, the impact upon income in the Great Lakes metropolitan areas is apparent.

More recent examples of the impacts of business downturns can be found in Tables 5 and 6, which indicate employment changes between 1973 (a business cycle peak year) and 1976 (a business cycle trough year). Total regional employment increase, for example, was less than five percent of the national increase, and the region's growth rate in total employment was about one-fifth of the national rate. Of the 15 metropolitan reas greater than 500,000 population, only one, Minneapolis-St. Paul, had more total employment in 1976 than it had in 1973. Almost half of the nation's manufacturing job losses were in the Great Lakes region, and over 90 percent of that job loss took place in the region's metropolitan areas.

In terms of unemployment rates, Tables 7 and 8 compare Great Lakes labor market areas for each of the two years. The "heavy industry" metropolitan areas clearly stand out both in relative ranking and magnitude of difference between 1973 and 1975. The more diversified metropolitan areas, Columbus, Minneapolis-St. Paul, Madison, etc., have lower rates in both of the two years.

TABLE 5.

GREAT LAKES: TOTAL EMPLOYMENT,
MANUFACTURING EMPLOYMENT CHANGE, 1973-1976

Area	Total Employment Change 000's of Jobs	Percent	Total Manufacturing Change 000's of Jobs	Percent
Illinois	+ 23.0	+ .5	- 148.8	-11.0
Indiana	- 18.1	- .9	- 76.4	-10.1
Michigan	- 18.0	- .5	- 120.5	-10.2
Minnesota	+ 76.7	+5.3	- 14.3	- 4.3
Ohio	- 13.1	- .3	- 132.8	- 9.3
Wisconsin	+ 63.9	+3.8	- 19.4	- 3.6
Great Lakes	+ 114.4	+ .7	- 512.2	- 9.2
United States	+2547.0	+3.3	-1112.0	- 5.5
Great Lakes: SMSAs				
SMSAs > 1 million	- 216.8	-2.6	- 297.7	-11.3
SMSAs .5 to 1 million	- 71.9	-4.2	- 93.5	-14.0
SMSAs < .5 million	- 3.8	-0.2	- 72.2	9.1
	- 292.5		- 463.4	

Source: Employment & Earnings, September 1977 for state and national data; April 1977 for SMSA data.

TABLE 6.

GREAT LAKES REGION SMSAs: TOTAL EMPLOYMENT, MANUFACTURING EMPLOYMENT CHANGE, 1973-1976

	Total Employment Change		Manufacturing Employment Change	
	000's of Jobs	Percent	000's of Jobs	Percent
SMSA's > 1,000,000 Population				
Chicago	- 82.9	- 2.7	-120.4	-13.1
Detroit	- 87.9	- 5.3	- 81.3	-13.3
Minn.-St.Paul	+ 3.9	+ .4	- 15.5	- 7.2
Cleveland	- 22.7	- 2.6	- 27.7	- 9.6
Milwaukee	- 12.1	- 2.0	- 16.7	- 8.0
Cincinnati	- 8.4	- 1.6	- 13.1	- 7.9
Indianapolis	- 0.6	- 0.1	- 10.5	- 8.1
Columbus	- 6.1	- 1.4	- 12.5	-11.9
	-216.8	- 2.6	-297.7	-11.3
SMSA's Between 500,000 - 1,000,000 population				
Dayton	- 11.3	- 3.4	- 16.8	-14.2
Toledo	- 8.6	- 3.0	- 10.7	-11.5
Akron	- 8.8	- 3.5	- 10.3	-11.0
Gary-Hammond-E. Chicago	- 8.2	- 3.5	- 12.9	-12.0
E. St. Louis	N.A.	N.A.	N.A.	N.A.
Grand Rapids	- 7.8	- 3.6	- 12.6	-15.4
Youngstown-Warren	- 17.3	- 8.2	- 16.7	-18.0
Flint	- 9.9	- 5.4	- 13.5	-15.8
	- 71.9	- 4.2	- 93.5	-14.0
SMSA's < 500,000 population				
Lansing-E. Lansing	+ 3.2	+ 2.0	- 6.1	-14.2
Canton	- 7.2	- 4.8	- 8.5	-13.7
Fort Wayne	- 6.9	- 4.4	- 7.3	-11.9
Davenport-Rock Island-Moline	+ 8.1	+ 5.7	+ 1.6	+ 3.5
Peoria	+ 5.3	+ 3.8	+ 1.9	+ 3.8
Madison	+ 8.7	+ 6.6	0	0
Evansville	- 0.5	- 0.5	- 5.1	-12.7
Appleton-Oshkosh	- 1.1	- 1.0	- 2.8	- 6.6
South Bend	- 2.8	- 2.7	- 2.1	- 6.3
Rockford	- 5.2	- 4.5	- 6.7	-12.0
Lorain-Elyria	N.A.	N.A.	N.A.	N.A.
Duluth-Superior	- 1.7	- 3.0	- 0.4	- 4.9
Kalamazoo-Portage	+ 4.0	+ 4.3	- 2.6	- 7.6
Ann Arbor	+ 1.1	+ 1.0	- 4.6	-11.9
Hamilton-Middletown	N.A.	N.A.	N.A.	N.A.
Saginaw	- 0.8	- 1.0	- 3.9	-11.3
Lima	N.A.	N.A.	N.A.	N.A.
Springfield, OH	N.A.	N.A.	N.A.	N.A.
Battle Creek	- 3.8	- 5.8	- 3.6	-13.9
Springfield, IL	+ 1.1	+ 1.4	- 1.5	-15.5
Muskegon-Musk. Hgts.	+ 1.9	+ 1.6	- 1.2	- 5.2
Terre Haute	- 0.8	- 1.4	- 1.4	- 8.4
Racine	+ 10.7	+ 1.1	- 1.2	- 4.3
Steubenville-Weirton	N.A.	N.A.	N.A.	N.A.
Champaign-Urbana-Rantoul	+ 1.7	+ 2.6	+ 0.6	+10.5
St. Cloud	N.A.	N.A.	N.A.	N.A.
Jackson	- 4.3	- 8.2	- 3.9	-20.9
Anderson	N.A.	N.A.	N.A.	N.A.
Mansfield	N.A.	N.A.	N.A.	N.A.
Muncie	- 2.2	- 4.6	- 2.2	-13.1
Moorhead, MN	N.A.	N.A.	N.A.	N.A.
Decatur	- 1.3	- 2.4	- 1.8	- 8.5
Eau Claire, WI	N.A.	N.A.	N.A.	N.A.
Kenosha, WI	- 7.3	-17.9	- 8.5	-46.0
Bay City, MI	- 0.9	- 2.8	- 1.2	-11.4
Bloomington-Normal, IL	+ 2.7	+ 6.1	- 0.5	- 6.8
Lafayette-W. Lafayette, IN	N.A.	N.A.	N.A.	N.A.
Green Bay	+ 2.9	+ 4.7	+ 0.6	+ 3.2
Kankakee, IL	N.A.	N.A.	N.A.	N.A.
Bloomington, IN	N.A.	N.A.	N.A.	N.A.
Rochester, MN	N.A.	N.A.	N.A.	N.A.
La Crosse, WI	+ 2.6	+ 8.0	+ 0.2	+ 2.4
	- 3.8	- 0.2	- 72.2	- 9.1

Source: Employment & Earnings, April, 1977.

TABLE 7.

UNEMPLOYMENT RATES IN MAJOR GREAT LAKES LABOR MARKET AREAS, 1975

QUINTILE *

1		2		3		4		5	
10.5 - 15.3		8.9 - 10.4		7.9 - 8.8		6.7 - 7.8		4.4 - 6.6	
Flint, Mich.	15.3	Kalamazoo, Mich.	10.1	Akron, Oh.	8.8	Evansville, Ind.	7.8	Davenport, Ill.	6.2
Detroit, Mich.	14.6	Fort Wayne, Ind.	9.8	Lorain, Oh.	8.7	Gary/Hammond, Ind.	7.8	Racine, Wis.	6.0
Muskegon, Mich.	14.5	Toledo, Oh.	9.6	Canton, Oh.	8.6	Cleveland, Oh.	7.7	Steubenville, Oh.	6.0
Battle Crk., Mich.	11.9	Duluth, Minn.	8.9	Chicago, Ill.	8.6	Dayton, Oh.	7.7	Kenosha, Wis.	5.4
Lansing/E.Lansing, Mich.	11.8			Milwaukee, Wis.	8.1	South Bend, Ind.	7.5	Peoria, Ill.	4.6
Hamilton, Oh.	11.6			Cincinnati, Oh.	7.9	Indianapolis, Ind.	7.4	Madison, Wis.	4.4
Saginaw, Mich.	11.3					Columbus, Oh.	6.9		
Grand Rapids, Mich.	11.2					Terre Haute, Ind.	6.8		
Youngstown, Oh.	10.5	U.S. UNEMPLOYMENT RATE = 8.5				Mpls/St.Paul, Minn.	6.7		
Rockford, Ill.	10.5								

*Date for 150 labor market areas were divided into 5 quintiles with 30 cities each.

Source: Employment & Training Report of the President, 1977.

TABLE 8.

UNEMPLOYMENT RATES IN MAJOR GREAT LAKES LABOR MARKET AREAS, 1973

QUINTILE*

1		2		3		4		5	
6.3 - 8.6		5.1 - 6.2		4.1 - 5.0		3.4 - 4.0		2.6 - 3.3	
Muskegon, Mich.	7.8	Grand Rapids, Mich.	6.0	Lansing/E. Lansing	5.0	Terre Haute, Ind.	4.0	South Bend, Ind.	3.0
Flint, Mich.	7.1	Battle Creek, Mich.	5.9	Hamilton, Oh.	4.6	Racine, Wis.	3.9	Columbus, O.	2.9
Duluth, Minn.	6.5	Saginaw, Mich.	5.4	Mpls/St. Paul, Minn.	4.5	Lorain, Oh.	3.9	Fort Wayne, Ind.	2.7
Detroit, Mich.	6.3	Kalamazoo, Mich.	5.1	Chicago, Ill.	4.2	Youngstown, Oh.	3.9		
		Cincinnati, Oh.	5.1	Indianapolis, Ind.	4.2	Gary/Hammond, Ill.	3.8		
				Cleveland, Oh.	4.2	Canton, Oh.	3.8		
				Toledo, Oh.	4.1	Madison, Wis.	3.6		
						Milwaukee, Wis.	3.6		
						Peoria, Ill.	3.6		
U.S. UNEMPLOYMENT RATE = 4.1						Steubenville, Oh.	3.6		
						Akron, Oh.	3.6		
						Evansville, Ind.	3.5		
						Kenosha, Wis.	3.5		
						Rockford, Ill.	3.4		
						Peoria, Ill.	3.4		

*Data for 150 labor market areas were divided into 5 quintiles with 30 cities each.

Source: Employment & Training Report of the President, 1977.

B.

REGIONAL DISPERSION OF MANUFACTUPING EMPLOYMENT GROWTH

Just as the location of new manufacturing is diffusing out of metropolitan into nonmetropolitan areas, so new manufacturing growth is diffusing out of former regions of concentration into other sections of the country.

Within the Great Lakes region, itself, new manufacturing growth is occurring in the western portions of the region while substantial losses are being sustained in the eastern areas of historic concentration. While Minnesota showed a dramatic gain in durable goods manufacturing over the seven-year peak-to-peak period, Illinois and Michigan actually lost durable goods manufacturing jobs. The region's manufacturing employment growth rate is low compared to the rest of the nation. outside the old manufacturing belt.

During the 1966-1973 peak-to-peak period in the national economy, U.S. growth rates in durable and nondurable production-line manufacturing jobs were only 6.1 percent and 4.2 percent* respectively (Figure 1). In the Great Lakes, the corresponding figures were 2.0 and 0.8 percent respectively. The national durable goods growth rate increases to 10.4 percent when 600,000 jobs lost in the New England and Middle Atlantic states are discounted. Thus, the Great Lakes rate of durable manufacturing employment growth is only one fifth of the national growth rate in durable goods manufacturing employment outside the old industrial belt. Most of this new growth is in the South.

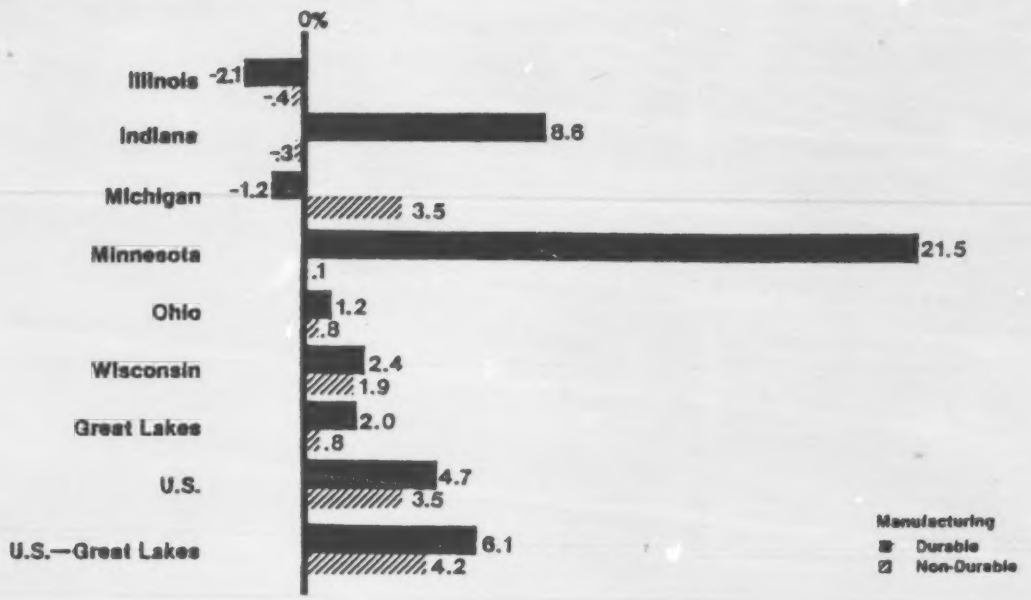
Not Flight to Sunbelt

But the flight of existing industry to the South and West is not presently the cause of the region's slow growth or loss. Rather, plant closures and reductions in employment in the region are not being balanced by the creation of new enterprise or

* U. S. minus Great Lakes

FIGURE 1

Percent Gain in Great Lakes Region's Manufacturing Employment, 1966-1973



Source: Same as Table 1

expansion of existing enterprise in the Great Lakes states. The new growth is occurring in the so-called Sunbelt.

Between 1969 and 1974, the Great Lakes region lost 10.8 percent of its Dun and Bradstreet rated firms. Over the same period, employment in Dun and Bradstreet rated firms decreased by 0.3 percent from the region as a whole (Table 9). The greatest employment loss was experienced by Indiana--down 6.2 percent, while Ohio experienced the greatest employment gain, up 5.4 percent over its 1969 base.

Out-migration of firms from the region accounted for relatively little of the employment loss. If only out-migration had occurred, employment would have been approximately 0.3 percent lower than its 1969 base. Employment change due to migration of firms in and out of the region actually was positive over the period: 26,400 jobs (in 406 firms) were lost in the region as a result of regional firms moving out, but 32,700 jobs (in 247 firms) were created by nonregional firms moving into the East North Central Region.

Births of new firms and net expansion of existing firms were responsible for about equal amounts of employment gains. If only births had occurred, employment in 1974 would have been 9.1 percent higher; and if only net expansion had occurred, employment would have been 9.5 percent higher. If only closings had occurred, employment would have declined by 18.9 percent. Thus, it is the failure in the regional economy to generate new replacement employment, rather than the outright interstate or interregional flight of existing industry, that represents the region's key problem.

Regional Shift in Industrial Locations

Much modern industry is essentially footloose in its location requirements. It is tending now to follow rather than lead population shifts in the country. While not many firms pick up stakes and move, such lead patterns of economic growth do

TABLE 9.

EMPLOYMENT CHANGE IN EAST NORTH CENTRAL BY STATE,
DECEMBER 31, 1969 - DECEMBER 31, 1974

State	Total Employment 1969	Percent Change (1969-74)	Employment Change as a Percent of 1969 Employment -- Attributable to:						
			Death of Firms	Birth of Firms	Expansion/ Contraction	Migration into ENC[a]	Migration Out of ENC[b]	Immigration from other ENC States[a]	Outmigration to other ENC States[b]
East North Central	9888565	-0.3	18.9	9.18	9.5	0.36	0.29	-	-
Illinois	3781963	-2.5	19.43	9.65	7.2	0.71.	0.56	0.07	0.09
Indiana	1218880	-6.2	16.41	7.46	3.0	0.11	0.26	0.09	0.17
Michigan	1902790	-1.8	21.49	9.73	9.7	0.39.	0.19	0.06	0.03
Ohio	2390056	5.4	18.36	8.77	14.9	0.17	0.11	0.02	0.03
Wisconsin	896877	3.6	17.20	9.51	11.2	0.06	0.13	0.25	0.05

(a) 1974 employment.

(b) 1969 employment.

Source: C. L. Jusenius and L. C. Ledebur, The Migration of Firms and Workers in Ohio, 1970-1975, jointly published by the Office of Economic Research, Economic Development Administration and the Academy for Contemporary Problems.

substantially affect the birth rates of new firms, branch plants, and expansions. Thus a relative shift in the economic role of the county's regions is underway, partially attributable to a shift in market-oriented industries which are locating where population growth is not concentrating. Manufacturing, especially durable goods manufacturing, accounts for a diminishing share of total employment, despite continued increases in manufacturing output. These shifts have combined to have important implications for the future growth of the region's economy.

C.

WORLD COMPETITION WITH GREAT LAKES INDUSTRY

In the 19th century, as the Great Lakes grew into the predominant heavy industrial center for the nation, the region dominated the domestic market for steel and other key regional products. European producers could compete for some East Coast markets, but the interior markets belonged to the Great Lakes states. After World War I, exports began to play a somewhat larger role in the region's economy, but it was the destruction of the production capacity of much of the developed world in World War II that brought the region's key industries into international predominance. The region produced the basic metals, the machinery, and the equipment needed to reconstruct much of the industrial capacity destroyed in Western Europe and Japan as well as to supply the needs of the developing, newly independent nations in Africa and Asia. By the end of the 1950s, reconstruction in Europe and Japan had progressed to the point where their rebuilt industries could compete not only for their own domestic markets, but also for international markets, especially in the United States, primarily because of their lower labor costs and, ironically, their newer equipment.

International Dispersal of Production Employment

During the 1960s and early 1970s, this competitive pressure has continued to mount. The Great Lakes region in particular now faces very serious competition for many of its key products -- automobiles and steel being prime examples (Tables 10 and 11).

Lower labor costs and perhaps more aggressive business development attitudes have also shifted much of the growth in world productive capacity--particularly in textiles, garments, and electronics--to Third World countries. Many of the calculators now being sold are made in countries that, until very recently, used an abacus in their own commercial enterprise. One automobile industry executive

TABLE 10.

IMPORTS VERSUS U.S. PRODUCTION OF STEEL MILL PRODUCTS

Year	Imports (000's of Sh. Tons)	U.S. Production (000's of Sh. Tons)	Percent
1947	32	63,057	.05
1948	148	65,973	.22
1949	291	58,104	.50
1950	1,014	72,232	1.40
1951	2,177	78,929	2.76
1952	1,201	68,004	1.77
1953	1,703	80,152	2.12
1954	771	63,153	1.22
1955	973	84,717	1.15
1956	1,341	83,251	1.61
1957	1,115	79,895	1.40
1958	1,707	59,914	2.85
1959	4,396	69,377	6.34
1960	3,359	71,149	4.72
1961	3,163	66,126	4.78
1962	4,100	70,552	5.81
1963	5,446	75,555	7.21
1964	6,440	84,945	7.58
1965	10,383	92,666	11.20
1966	10,753	89,995	11.95
1967	11,455	83,897	13.65
1968	17,960	91,856	19.55
1969	14,034	93,877	14.95
1970	13,364	90,798	14.72
1971	18,304	87,038	21.03
1972	17,681	91,805	19.26
1973	15,150	111,430	13.60
1974	15,970	109,472	14.59
1975	12,012	79,957	15.02
1976	14,285	89,447	15.97

Source: Business Statistics, the biennial supplement to the Survey of Current Business, May, 1976

TABLE 11.

IMPORTS VERSUS U.S. PRODUCTION OF AUTOS

Year	U.S. Production[1] (Billions of 1972 $)	Imports[2] (Billions of 1972 $)	Percent
1947	10.4	0	0
1948	11.4	0	0
1949	14.9	0	0
1950	19.4	0	0
1951	15.8	.1	.6
1952	13.3	.1	.7
1953	18.8	.1	.5
1954	17.3	.1	.6
1955	25.2	.2	.8
1956	18.8	.2	1.1
1957	20.2	.4	2.0
1958	13.9	.9	6.5
1959	18.0	1.3	7.2
1960	20.5	1.1	5.4
1961	17.2	.8	4.7
1962	22.1	.7	3.2
1963	24.8	.8	3.2
1964	25.7	1.1	4.3
1965	31.8	1.4	4.4
1966	31.0	2.2	7.1
1967	28.0	3.1	11.1
1968	34.4	4.4	12.8
1969	33.4	5.5	16.5
1970	25.6	6.4	25.0
1971	34.7	7.1	20.5
1972	37.5	8.0	21.3
1973	42.9	9.1	21.2
1974	33.1	8.5	25.7
1975	32.3	9.1	28.2
1976	41.3	9.4	22.8
1977(I)[3]	47.8	11.8	24.7
1977(II)[3]	46.7	13.1	28.1

Source: National Income & Product Accounts of U.S., 1929-1974, Survey of Current Business 1977 Supplement, and NI&P Accounts, July 1977, Survey of Current Business

(1) consists of final sales and changes in inventories of new autos produced in U.S.

(2) consists of PCE, PDE and government purchases of imported new autos.

(3) annualized estimates based on first and second quarter 1977 statistics.

interviewed during the course of this survey pointed out that his firm was the only one still making any of its own automobile radios in the United States.

Changing Patterns of Industrial Ownership

An additional change in the character of the region's industry that influences its world position related to the fact that many Great Lakes industries began as the personal undertaking of home town entrepreneurs. The families that owned the factories lived in the town. People knew who they were, knew where they lived. The owners were active in local civic affairs. Now, the industry of this region, like industry elsewhere, has become part of a more dispersed and invisible ownership as local industries became part of national firms and, more important for present affairs, part of multinational corporations. Owners have been replaced by managers. The managers usually move from plant to plant in the course of career development. Their identification and loyalties are with the firm, rather than the city or town in which they lived. Finally, this new breed of multinational conglomerate managers now make plant location decisions involving not only other parts of the United States, but much of the rest of the world as well.

Lower production costs, especially lower labor costs, have often dictated the development of new and branch facilities in other countries. The difference between five dollars an hour and five dollars a day wages is not an insignificant one. Small cars carrying American labels are now quite often manufactured overseas. One need only look at the variety of goods on store shelves everywhere that carry brand names once synonymous with "Made in U.S.A." to see what has been happening. Even the last of our "American" television producers is now moving production out of the Great Lakes region to a foreign site.

Foreign Trade Adjustment

While the Foreign Trade Adjustment Act--which provides assistance to workers, firms, and communities that can demonstrate severe adverse impacts from competitive imports--

resulted in awards of $60 million to Great Lakes workers and firms in 1976 (out of $141 million total assistance), it is not the answer to the problem of manufacturing dispersal, even if assistance under the legislation is expanded.

D.

SLOW GROWTH IN REGIONAL EMPLOYMENT

In 1966 the Great Lakes region had 25 percent of all jobs in the United States, but it had 28 percent of all the manufacturing jobs. By 1973, the Great Lakes region's share of total U.S. employment was down to 22 percent, but its share of total U.S. manufacturing employment was still in excess of 28 percent. Having risen to economic dominance on the base of its manufacturing, the region now faces a transitional adjustment problem as production employment in the traditional basic industries of the region fails to match employment displacements and labor force growth. The region lags behind the rest of the country in its job growth in its nonmanufacturing sectors as well. Total U.S. employment grew 21 percent (22.4 percent when the Great Lakes are removed from the national growth rate) between the 1966 to 1973 peak-to-peak period, but only 15.4 percent in the region (Table 1).

While Minnesota showed a dramatic gain in durable goods manufacturing over the 1966-1973 peak-to-peak period, Illinois and Michigan actually lost durable goods manufacturing jobs. Thus, the growth/decline pattern is far from uniform. Excluding the Great Lakes, U.S. employment in manufacturing has declined from 33 percent to 28 percent of total employment* over the 1966-1973 period. At the same time, regional employment in manufacturing has declined from 45 percent to 37 percent of total employment (Figures 2 and 3).

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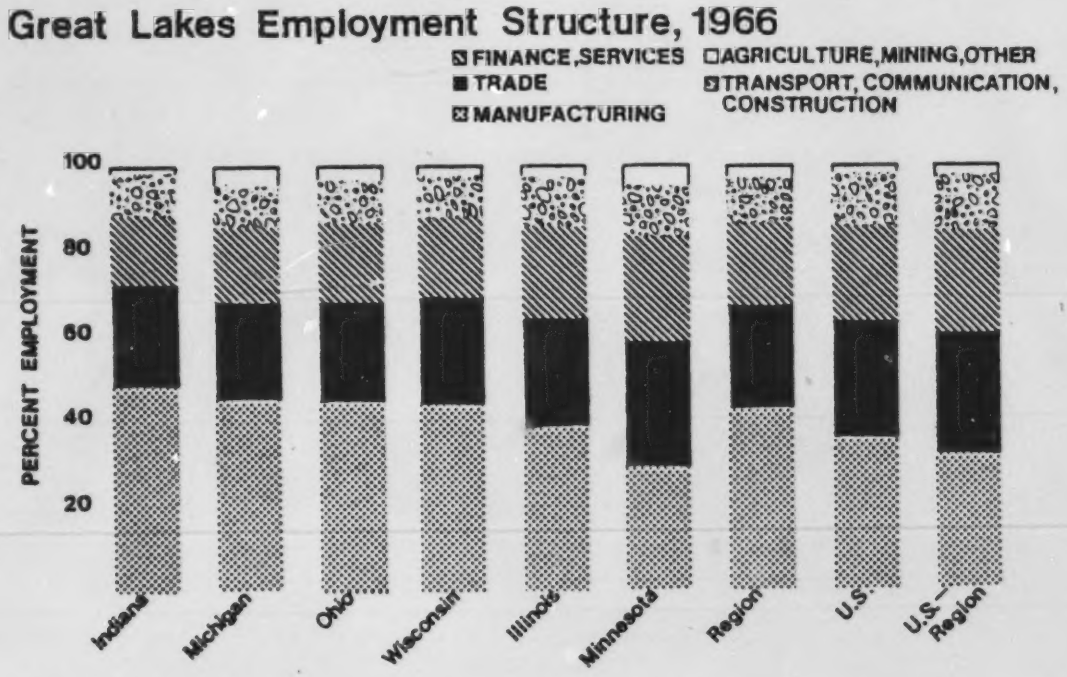
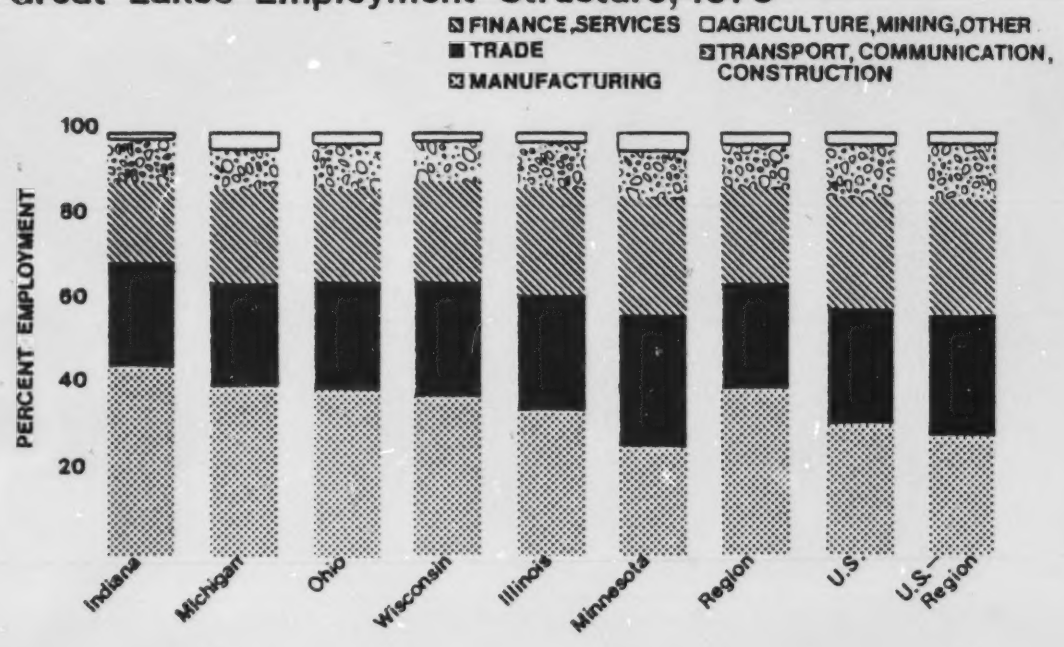
* County Business Patterns definition which excludes government, railroad and self-employed workers.

Figure 2



Source: Same as Table 1

Figure 3



Source: Same as Table 1

Sources of Manufacturing Growth

Of the 165,200 manufacturing job gains in the region over the 1966-1973 period, the largest gains were realized in fabricated metals, rubber and plastic products, and printing and publishing (Table 12). The largest employment losses took place in food and kindred products, leather products, electric machinery, and apparel. In food products manufacturing, Great Lakes employment losses accounted for more than half the national job losses even though the region has less than a quarter of the national employment in that sector. In four other sectors--electrical machinery, pulp and paper, stone, clay, and glass, and textile mill products--regional employment declined while national employment increased. Conversely, regional employment in ordnance manufacturing increased while national employment decreased.

White Collar Job Growth in Manufacturing

Almost half the increase in manufacturing employment took place in the "white collar" occupations in manufacturing administration over the 1966-1973 period at a rate slightly higher in the Great Lakes region than in the nation. Minnesota had the highest growth rate, Michigan the lowest.

The Great Lakes Region has strong national concentrations of employment and output in fabricated metals (screw machine products, metal barrels, drums and pails, and metal sanitary ware and plumbing fittings), all of which have reasonably high projected growth rates (Table 13). Referring back to Table 12, it is noted that all six states experienced employment gains in fabricated metals. The other large regional concentration is in non-electrical machinery. The Great Lakes region produces 68 percent of national construction machinery, 54 percent of its metal working machinery, and substantial percentages of engines and turbines,

TABLE 12.

CHANGES IN GREAT LAKES MANUFACTURING EMPLOYMENT
BY 2-DIGIT SIC INDUSTRY GROUPS, 1966-1973

SIC's	United States		Great Lakes		Indiana		Illinois		Michigan		Minnesota		Ohio		Wisconsin	
	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain	Absolute Gain	% Gain
19	- 3,308	- 1.4	+ 6,636	+ 25.7	+ 3,283	+105.8	+ 1,700	+ 34.2	+ 1,286	+ 33.5	+ 73	+ 0.9	- 2,097	- 43.8	+ 2,391	+228.1
20	- 45,943	- 2.9	- 24,573	- 6.5	- 5,113	- 12.1	- 2,510	- 2.2	- 546	- 1.1	- 6,667	- 14.6	- 5,690	- 7.9	- 4,047	- 7.3
21	- 2,610	- 3.8	- 1,223	- 50.1	- 235	- 45.2	- 118	- 32.6	- 446	-100.0	--	--	- 208	- 23.2	- 216	-100.0
22	+ 52,986	+ 5.7	- 3,121	- 10.2	- 141	- 13.7	- 1,773	- 27.7	- 230	- 6.0	+ 143	+ 5.8	- 560	- 5.6	- 560	- 8.1
23	+ 19,841	+ 1.4	- 7,798	- 7.2	- 1,351	- 9.6	- 9,313	- 23.4	+ 2,553	+ 12.5	- 504	- 6.2	+ 471	+ 2.5	+ 346	+ 4.6
24	+ 24,180	+ 4.1	+ 7,443	+ 10.4	+ 1,557	+ 13.6	+ 770	+ 6.4	- 373	- 2.7	+ 2,292	+ 32.6	+ 2,317	+ 23.6	+ 880	+ 5.1
25	+ 75,701	+ 17.4	+ 1,642	+ 1.6	+ 121	+ 0.5	- 2,212	- 8.2	+ 857	+ 4.1	+ 1,409	+ 42.4	+ 215	+ 1.2	+ 1,252	+ 16.9
26	+ 28,914	+ 4.7	- 18	- 0.01	+ 400	+ 3.0	+ 1,415	+ 3.5	- 4,842	- 16.6	+ 367	+ 2.4	+ 2,426	+ 6.3	+ 216	+ 0.6
27	+102,355	+ 10.4	+ 22,483	+ 8.5	+ 2,379	+ 9.4	+ 6,436	+ 6.4	+ 3,760	+ 12.2	+ 4,271	+ 20.3	+ 1,830	+ 2.9	+ 3,807	+ 16.0
28	+ 45,737	+ 5.6	+ 9,569	+ 5.5	+ 671	+ 2.7	+ 4,960	+ 9.2	- 1,856	- 5.1	+ 61	+ 1.0	+ 1,708	+ 3.7	+ 4,025	+ 57.9
29	- 4,786	- 3.4	- 1,777	- 6.2	- 1,396	- 19.3	- 230	- 2.3	+ 293	+ 11.9	+ 67	+ 4.6	- 496	- 7.6	- 15	- 2.6
30	+139,838	+ 29.1	+ 29,152	+ 15.7	+ 4,887	+ 17.3	+ 5,204	+ 14.6	+ 9,160	+ 40.3	+ 1,829	+ 37.5	+ 5,576	+ 6.6	+ 2,496	+ 26.4
31	- 75,855	- 21.8	- 11,875	- 22.8	- 531	- 17.3	- 5,810	- 35.6	- 881	- 19.8	+ 497	+ 28.3	- 2,197	- 20.6	- 2,953	- 18.7
32	+ 16,670	+ 2.8	- 3,291	- 2.0	- 1,228	- 5.0	+ 21	+ 0.06	+ 1,897	+ 9.3	+ 222	+ 2.6	- 4,320	- 6.7	+ 117	+ 1.4
33	- 41,043	- 3.2	- 6,040	- 1.2	+ 7,205	+ 6.6	- 3,368	- 3.1	- 3,373	- 3.6	+ 489	+ 6.5	- 5,679	- 3.3	- 1,314	- 4.2
34	+191,650	+ 15.7	+ 74,055	+ 15.4	+ 5,415	+ 11.3	+ 7,418	+ 5.5	+28,550	+ 26.0	+ 2,712	+ 16.3	+20,709	+ 15.9	+ 9,251	+ 23.4
35	+135,254	+ 7.5	+ 545	+ 0.1	+ 6,181	+ 8.8	- 6,317	- 2.9	-14,801	- 8.9	+15,697	+ 33.7	- 2,583	- 1.3	+ 2,368	+ 2.3
36	+102,729	+ 5.9	- 8,424	- 1.5	+ 6,523	+ 5.5	-15,215	- 7.4	+ 2,174	+ 5.4	- 313	- 1.3	+ 6,721	+ 5.1	- 8,316	- 15.3
37	- 83,137	- 4.4	- 1,133	- 0.2	+14,222	+ 14.6	+ 1,118	+ 2.2	-17,306	- 4.7	+ 3,716	+ 52.5	- 721	- 0.4	- 2,162	- 5.4
38	+ 48,360	+ 13.4	+ 2,106	+ 2.3	+ 2,582	+ 61.8	- 2,180	- 5.2	- 6,688	- 43.5	+ 2,270	+ 24.1	+ 5,413	+ 43.7	+ 709	+ 9.4
39	+ 32,872	+ 8.0	+ 1,402	+ 1.5	- 955	- 9.6	+ 134	+ 0.4	- 2,518	- 20.2	+ 2,443	+ 39.8	- 97	- 0.5	+ 2,395	+ 27.6
Total Manufacturing	+996,660	+ 5.3	+165,148	+ 3.1	+47,758	+ 6.9	- 5,259	- 0.4	+11,259	+ 1.0	+42,635	+ 15.7	+51,910	+ 3.8	+16,845	+ 3.4
Durable	+499,928	+ 4.7	+ 74,941	+ 2.0	+44,906	+ 8.6	-18,131	- 2.1	-10,293	- 2.1	+31,010	+ 21.5	+10,878	+ 1.2	+ 7,571	+ 2.4
Non-Dur.	+260,477	+ 3.5	+ 10,819	+ 0.8	- 430	- 0.3	- 1,739	- 0.4	+ 6,965	+ 3.5	+ 64	+ 0.1	+ 2,860	+ 0.8	+ 3,099	+ 1.9
Admin.	+236,255	+ 28.7	+ 79,388	+ 30.5	+ 3,282	+ 28.6	+14,611	+ 21.6	+14,587	+ 16.7	+11,561	+ 58.6	+29,172	+ 49.9	+ 6,175	+ 40.6

Source: County Business Patterns, 1966 and 1973

19 Ordnance & Accessories(D)
20 Food & Kindred Prod.(ND)
21 Tobacco Manufacturers(ND)
22 Textile Mill Products(ND)
23 Apparel & Other Text.Prod.(ND)
24 Lumber & Wood Prod.(D)
25 Furn. & Fixtures(D)
26 Paper & Allied Prod.(ND)
27 Printing & Publish.(ND)
28 Chem. & Allied Prod.(ND)
29 Petroleum & Coal Prod.(ND)
30 Rubber & Plastics Prod.(ND)
31 Leather & Leather Prod.(ND)
32 Stone, Clay, & Glass Prod.(D)
33 Primary Metal Products(D)
34 Fabricated Metal Prod.(D)
35 Machinery, except Elec.(D)
36 Electrical Equip. & Supp.(D)
37 Transportation Equipment(D)
38 Instruments & Related Prod.(D)
39 Misc. Manufacturing Indus.(D)

TABLE 13.

SUMMARY OF GREAT LAKES REGION'S SHARE OF
U.S. OUTPUT BY DETAILED INDUSTRY SECTOR
COMPARED TO PROJECTED NATIONAL GROWTH RATE FOR 1975-1985

Industry Sector	Share of U.S. Output (percent)	Projected Annual Growth in Value of Shipments, 1975-1985 (percent)
Construction Machinery	68	3.65
Motor Vehicles & Parts	66	3.10
Screw Machine Products & Stamping, etc.	61	3.02
Metalworking Machinery	54	3.52
Miscellaneous Electrical Machinery & Equipment	53	3.39
Engines and Turbines	50	3.28
Household Appliances	49	2.72
Industrial Trucks & Tractors	48	3.30
Primary Iron & Steel	47	2.90
Farm Machinery	45	3.37
Electric Motors & Generators	44	3.71
Locomotives & Rail & Street Cars	43	3.36
Metal Sanitary Ware & Plumbing Fittings	42	4.00
Metal Barrels & Drums & Pails	41	3.30
General Industrial Machinery & Equipment	40	3.53
Service Industry Machinery	40	3.66

Source: County Business Patterns, Input/Output tables derived by Academy for Contemporary Problems and Battelle.

industrial trucks and tractors, farm machinery, general industry machinery, and service industry machinery (Table 13). Unlike fabricated metals, however, only 500 net jobs in nonelectrical machinery were created in the region over the 1966-1973 period with substantial variation between states. Minnesota, Indiana, and Wisconsin were substantial employment gainers (+24.5 thousand jobs), but Illinois, Michigan, and Ohio were substantial losers (-24 thousand jobs). For the above and many other sectors, the important point is that there are wide disparities in existing and projected growth rates between the nation and the region. The region is not doing well comparatively, even though there are state-by-state exceptions for certain industry groups.

Slow Manufacturing Growth not Balanced by Rapid Growth in Non-Manufacturing.

By itself, the slower growth performance in manufacturing would not be a problem for the region if this slower rate of growth were being compensated for by growth in other kinds of business; after all, parts of the region successfully made the transition from agriculture to manufacturing. Its challenge now is to make a similar transition to a post-industrial economy in which the highest employment growth rates in the past two decades have been in non-manufacturing. While the region, like the nation, is undergoing such a transition, employment in non-manufacturing industries is neither keeping pace with the nation nor is it occurring fast enough to fill the job needs of a growing regional labor force.

Between 1966 and 1973, retail trade employment growth in the U.S. increased 27.3 percent and financial services increased 33.1 percent; for the Great Lakes region, the figures are 22.8 and 27.8 percent respectively (Table 14).

TABLE 14.

GREAT LAKES
DISTRIBUTION OF EMPLOYMENT
BY MAJOR SECTOR AND GROWTH RATES,
1966-1973

INDUSTRY	% OF TOTAL NON-AGRICULTURAL* EMPLOYMENT				GROWTH RATE IN EMPLOYMENT 1966-1973	
	U.S.		Great Lakes		U.S.	Great Lakes
	1966	1973	1966	1973		
Agricultural Services	.33	.37	.19	.21	33.5	24.3
Mining	1.19	.98	.63	.54	-0.1	19.8
Construction	6.02	6.09	4.83	4.64	22.2	11.4
Manufacturing:						
- Durable	20.89	18.12	30.62	27.07	4.7	2.0
- Non-Durable	14.48	12.42	11.67	10.19	3.5	0.8
- Administration	1.62	1.73	2.16	2.45	28.7	30.5
Transport	6.63	6.56	5.67	5.61	19.4	14.4
Wholesale/Retail Trade	25.71	27.09	24.38	25.94	27.3	22.8
Finance	6.13	6.75	5.09	5.61	33.1	27.8
Services	16.40	19.31	14.36	17.30	42.2	38.9
Unclassified	.59	.58	.40	.40	19.6	16.1
TOTAL	100.00	100.00	100.00	100.00	20.8	15.4

* Excludes government and railroad employment

Source: County Business Patterns

Growth in total government employment in the region is taking place at almost the national rate of increase, but there are marked differences between types of government employment (Table 15). State government employment grew faster than the national rate of growth between 1960 and 1972. Local government employment and federal government employment in the region grew at lesser rates than the national rates of growth.

TABLE 15.

PERCENT CHANGE IN GOVERNMENT EMPLOYMENT
1960-1972

States	Total Gov't.	Federal	State	Local
Ohio	43.8	9.1	78.8	46.6
Indiana	57.6	31.2	80.5	56.8
Illinois	54.5	8.1	106.2	58.6
Michigan	61.9	23.3	86.6	61.9
Wisconsin	72.5	23.8	131.0	65.3
Minnesota	58.6	20.8	81.8	61.5
Total Great Lakes	55.8	15.0	92.0	57.1
Total U.S.	56.5	20.1	84.5	64.2
Total U.S.-Great Lakes	56.8	20.9	82.7	66.2
Total U.S.-Great Lakes-D.C.	59.5	27.5	-	65.9

Source: 1961 and 1973 Statistical Abstract.

E.

THE IMPACT OF LOW NATIONAL ECONOMIC GROWTH RATES ON THE GREAT LAKES REGION

The question of whether the nation is entering a period in which the real long-term rate of national economic growth will be lower than the rates the nation has enjoyed in the post World War II period is one of the most hotly debated issues among economists. As shown in Table 16, real GNP has grown at slightly more than half the annual rate experienced in the 1960s. Will the low rates of real increase continue or decline even further? Will they increase to the rates necessary to attain a full employment economy?

Those who argue that higher growth rates will occur reason that the demand for goods and services is not limited and that, as the population continues to grow at a slower rate, its expectations, as far as standards of living are concerned, will continue to grow rapidly. If relatively free market forces are allowed to function, growth will absorb the labor force. They hold that technological advances will solve some of the present constraints.

The pessimists argue that the availability of key natural resources, particularly uncertainty in energy and water, together with international competition and a squeeze on the availability of investment capital, will necessarily lead to lower national economic growth rates.

Until very recently natural resource availability was a major spur to the nation's growth; now it is a potential limitation. Short energy supplies are already acting to limit the growth of some industries. Water supply and quality are also limitations on the growth that some areas can accept, not only in the West but also in certain parts of the Great Lakes region as well. Natural resources are

TABLE 16.

GROWTH RATES IN REAL U.S. GROSS NATIONAL PRODUCT, 1929-1976

PERIOD	Percent Change*
1929 - 1950	2.9
1950 - 1960	3.2
1960 - 1970	4.1
1970 - 1971	3.0
1971 - 1972	5.7
1972 - 1973	5.5
1973 - 1974	-1.7
1974 - 1975	-0.9
1975 - 1976	6.0
1970 - 1975	2.3
1970 - 1976	2.9

* Annual compounded changes from initial to terminal year of period.

Source: Various August issues of Survey of Current Business.

limited and will cap growth at some level--there is only so much air, water, land, and minerals. It is no longer as easy or inexpensive for the United States to "utilize" the resources of other countries to fuel its own growth. Additionally, whether technological changes can permit more efficient use of resources to keep pace with demand is highly uncertain.

Still another school says that the nation is immobilized in not being able to choose between remedies. This in their view will spell continuing high unemployment and high inflation.

This must be left for what it is--a debate. The published growth projections of the federal government have traditionally been overly optimistic. The estimates of other forecasters are inconsistent. The one thing that does appear certain is that lower rates of real economic growth nationally will have serious consequences for this region because of its existing industrial composition and its high concentrations of urban unemployed.

F.

REGIONAL LABOR FORCE GROWTH AND LAGGING EMPLOYMENT GROWTH

For the past decade both the nation's and the region's labor force have been growing at a faster rate than in previous decades.* There are two reasons for this. First, the "war babies" born in the period from 1947 to 1961 have been entering the labor force.** Secondly, women are entering or seeking to enter the labor force in greater numbers than before.***

While the number of "war baby" entrants can be expected to taper off by about 1982, three key problems arise out of these numbers. First, faster rates of growth in the national labor force combined with slow national economic growth rates mean more intense competition for jobs and fewer migration opportunities. The unemployed teen-ager and older workers of this region cannot therefore be expected to find jobs merely by moving to a "growth region". Secondly, because the birth rate for non-whites continued at a higher rate for a longer period, the number of potential minority urban entrants into the labor force will continue to increase for a longer period. The net tendency will be a swelling in the already high rates of unemployment for young blacks and other minorities in the region's major cities. Third, the war babies will not simply enter the labor force, they will stay in it. Entry level jobs will not suffice for long as these young people will expect career advancement in industrial organizations and businesses that traditionally have had many fewer jobs in the middle and top ranges than at the bottom. This may point toward potentially much greater frustation and dissatisfaction, not only among the ranks of the unemployed and never employed, but also among those trapped in low level jobs.

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* The 1960-1965 national labor force grew by 1.4 percent annually; between 1965-1975, it grew by 2.3 percent annually.

** Teen-age entrants into the labor force have grown annually from 3.04 percent between 1955-1960 to 4.60 percent between 1965-1975.

*** Female participation rates have increased from 23.8 percent in 1950 to 42.5 percent in 1975.

One way of looking at the potential job gap is to project the number of jobs that will be needed in the Great Lakes region to keep unemployment at 5 percent, if there is no migration. Such a "look into the future"* appears in Table 17.

The two estimates of the size of the potential labor force** are shown in Column (1). The employment projections, based on 1970-1975 regional growth rates, appear in Column (2). In the year 1985 (not the 1980-1985 period), for example, total labor force is estimated at 22.969 million. Employment in 1985 is estimated at 19.645 million, a job shortfall of 3.324 million, or a regional unemployment rate of 14.5 percent (Column (3). The total number of jobs needed to obviate migration and maintain five percent regional unemployment is 2.175 million (Column 4).

By 1990 the job shortfall to maintain five percent unemployment is 2.441 million (NPA). While this is a high figure, it is not much worse than the case for the year 1985 (15.3 percent unemployment in 1990 versus 14.5 percent in 1985) because the teen-age population in 1990 will be small and its traditionally high unemployment rates will have less weight in the labor force.

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* The calculations were as follows:
(1) Future population excluding migration was projected by using U.S. Census Bureau estimates for 1975 and applying 1974 death rates to each cohort, year by year.
(2) Labor force participation was estimated by applying Bureau of Labor Statistics and National Planning Association (NPA) projected labor force participation rates to each age and sex group in the population (the BLS rates are national, while the NPA rates are regional).
(3) Employment growth was projected by calculating the annual compound growth rate of employment from 1970 to 1975 and applying each to 1975 NPA employment data.

** The published labor force figures have long been known to disguise large numbers of people who would seek out and take a job if one were available. The Conference Board estimates that there are twenty million such people, compared to the official estimate of eight million.

TABLE 17.

PROJECTED UNEMPLOYMENT VERSUS 5 PERCENT UNEMPLOYMENT
IN THE GREAT LAKES (WITHOUT MIGRATION)

	(1)*	(2)**	(3)	(4)
	Labor Force (000's)	Employment (000's)	Percent Unemployed (000's)	Jobs Needed to Achieve 5 Percent Unemployment (000's)
1980				
Great Lakes (NPA)	21453.9	19199.6	10.5%	1181.6
Great Lakes (BLS)	21383.3	19199.6	10.2%	1114.5
1985				
Great Lakes (NPA)	22969.2	19645.3	14.5%	2175.4
Great Lakes (BLS)	-	-	-	-
1990				
Great Lakes (NPA)	23728.4	20101.3	15.3%	2440.7
Great Lakes (BLS)	23295.9	20101.3	13.7%	2029.5

* Calculated by applying National Planning Association or Bureau of Labor Statistics labor force participation rates to population projections (U.S. comparisons from NPA rates).

** Projected by assuming that annual compound employment growth rate will be the same as for 1970-1975, 0.46 percent.

It is stressed that the above is a "what if" construct. Certainly, regional residents will migrate out and people outside the region will move in. However, the results are helpful in putting the region's job gap in perspective. A lot of jobs have to be created just to match the region's 1970-1975 performance, which was not particularly good. It is the magnitude of the numbers that highlights the region's problem.

G.

GREAT LAKES POPULATION AND A CHANGING REGIONAL ECONOMY

The transition in the regional economy, compounded by changes in national population growth and migration patterns, has led to regional population growth rates below the national average beginning in the decade of the 1960's. It has continued to decline relative to the U.S. in the first six years of the 1970's (Table 18). The preliminary 1976 figure, a 0.1 percent increase, masks the fact that three states, Ohio, Indiana, and Michigan, experienced absolute population losses since 1975 (Table 19).

TABLE 18.

Great Lakes Region
Population Growth Summary

ANNUAL POPULATION GROWTH		
Great Lakes Region	Period	U.S.
1.7	1950-60	1.7
1.1	1960-70	1.3
0.3	1970-75	0.9
0.2	1974-75	0.8
0.1	1975-76	0.8

TABLE 19.

Great Lakes Population Change by State, 1950-1976

State	Population (000's)						Growth Rate (percent)				
	1950	1960	1970	1974	1975	1976	50-60	60-70	70-75	74-75	75-76
Illinois	8,172	10,186	11,128	11,160	11,145	11,229	1.4	1.0	0.05	- 0.1	0.8
Indiana	3,934	4,674	5,202	5,313	5,311	5,302	1.7	1.1	0.4	- 0.04	- 0.2
Michigan	6,372	7,834	8,890	9,117	9,157	9,104	2.0	1.3	0.6	0.4	- 0.6
Ohio	7,947	9,734	10,664	10,745	10,759	10,690	2.0	0.9	0.2	0.1	- 0.6
Wisconsin	3,435	3,962	4,429	4,566	4,607	4,609	1.4	1.1	0.8	0.9	0.04
Minnesota	2,982	3,425	3,815	3,905	3,926	3,965	1.3	1.1	0.6	0.5	1.0

Source: U. S. Bureau of the Census,
Series P-25 Population Estimates,
Feb., 1977.

This is due to a number of factors. As in the rest of the United States, birth and fertility rates have declined dramatically since 1960 -- from 23.7 births per 1,000 in 1960 to 15.0 per 1,000 in 1974 -- resulting in lower population growth rates.

This slowdown in population growth is reinforced in the Great Lakes Region by substantial reduction in the number of in-migrants. Contrasted to patterns of in-migration in the 1950's, the Great Lakes was a region of net out-migration during the 1960's, and in the 1970's, out-migration has increased in excess of five times the 1960-1970 rate. With the exception of Wisconsin, the other five states have all experienced net out-migration. The region's 58 metropolitan areas alone have lost 925,000 residents through out-migration (Tables 20 and 21). Only 14 metro areas in the region experienced in-migration over the 1970-1975 period.

In consequence, entire metropolitan areas, not just the central cities, are now losing people. Fifteen of the region's SMSA's have had absolute population losses between 1970 and 1975. For the 1974-1975 period, the number of SMSA's with absolute population losses jumped to 26.

Migration, Labor Force, and Unemployment

Migration from the Great Lakes region correlates very closely with the national business cycle. Major upward surges in out-migration occurred in 1957-58, 1961, 1970-71, and 1974-75 (Figure 4), years of major economic recession in the U.S. Major abatements of out-migration, and even some periods of in-migration occurred in the recovery and high employment years of 1959, 1965-69, and 1972-73. Thus, while the net migration trend has generally been outward, the pattern of movement follows a decidedly cyclical pattern. Unlike what appears

TABLE 20.

GREAT LAKES ABSOLUTE NET MIGRATION, 1970-1975
(000's)

	Metro	Non-Metro	Total
Illinois	-318.4	- 23.6	-342.0
Indiana	- 75.4	- 18.5	- 93.9
Michigan	-198.3	94.2	-104.1
Minnesota	- 28.0	18.4	- 9.6
Ohio	-298.6	17.2	-281.4
Wisconsin	- 6.9	55.2	48.3
Great Lakes	-925.6	142.9	-782.7

Source: Current Population Reports, Series P-26.

TABLE 21.

Great Lakes SMSA's

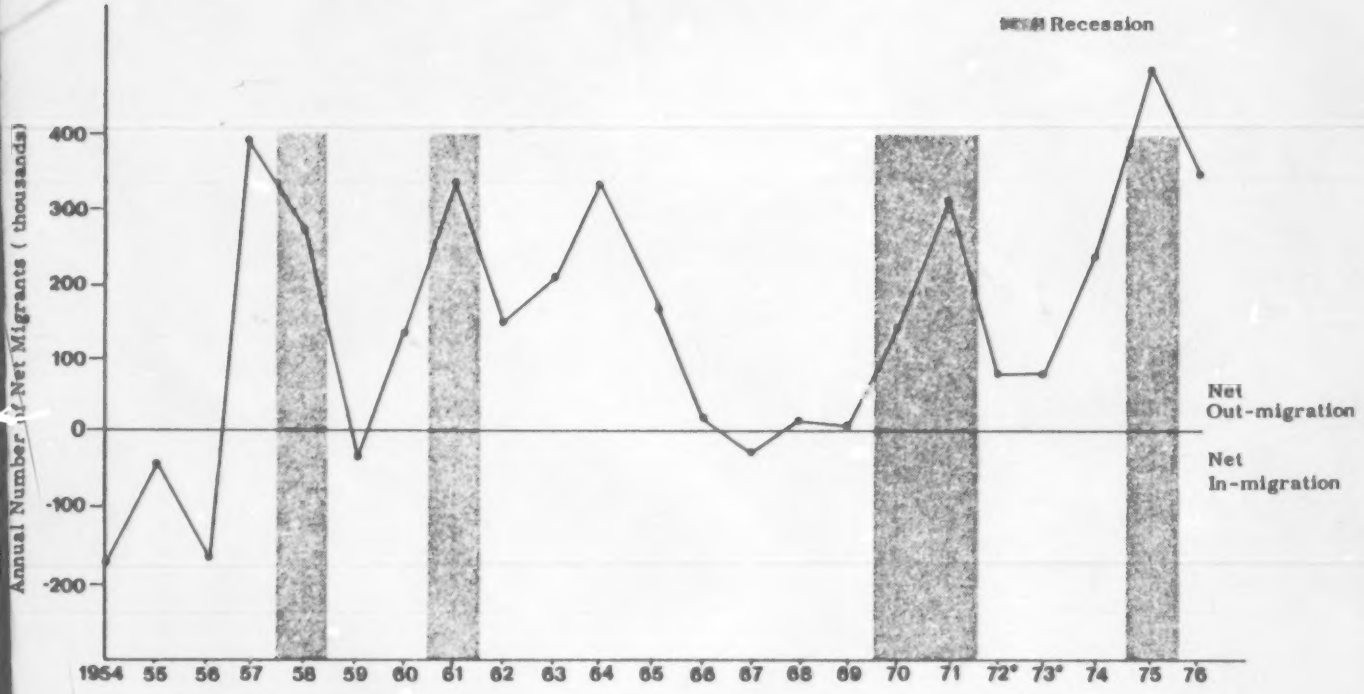
Population over 1,000,000

1970-75

	Net Migration (000's)	Absolute Population Change (000's)
Chicago	-258.0	5.3
Detroit	-171.4	9.7
Minneapolis-St. Paul	-23.3	62.2
Cleveland	-143.7	-88.4
Milwaukee	-24.4	22.5
Cincinnati	-44.5	-4.3
Indianapolis	-15.1	36.1
Columbus	9.9	59.9
Total	-670.5	103.0
Other 50 SMSA's	-255.1	297.5
Nonmetropolitan Counties	142.9	432.2

FIGURE 4.

Total Net Migrants, Northcentral Region



Source: Current Population Reports, Series P-20, Mobility Status of the Population, Years 1954-1976.

* Data available only for aggregate 1972-73 period, prorated equally for each year

to be taking place in the Northeast, there is no clear evidence yet of a secular "leap" or acceleration in migration from the region.

Examining specific regional patterns, the pattern of flows between the North Central and West show that this migration pattern has also been largely cyclical, except for the large flows of the early 1960's. The latter, however, have been replaced by outflows to the South in the 1970's. Thus, whereas a major "shift" is not discernible from the total figures, it is evident from a region-to-region standpoint (Figure 5).

Cessation of Black In-Migration

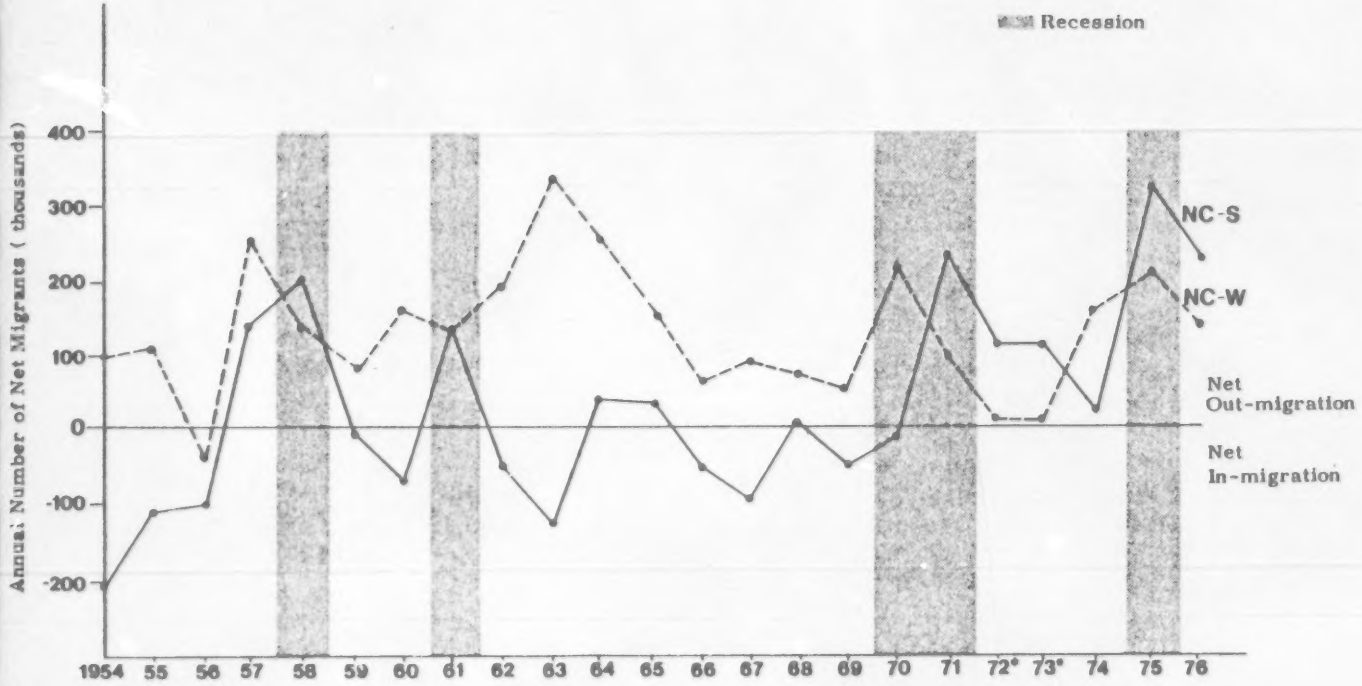
In contrast to the cyclical pattern of white migration in and out of the region through 1971, the stream of non-white in-migrants moving from the South into the region was persistent and steady. However, since 1971 this pattern has been disturbed. In every year since 1971, except for 1975, there was net out-migration of non-whites from the North Central to the South. During all these years, except 1974, there was also substantial out-migration of whites. The most puzzling year was 1974, when non-white out-migration combined with white in-migration to the North Central from the South, a complete reversal of the historic trend (Figure 6).

Out-Migration of Young and Non-Workers

In terms of migration by age group, the increase in net migration from North Central to South in the 1963-76 period has been characterized by the following trends: the "young workers" group (ages 18-34), apparently quite sensitive to cyclical factors, has gone from a large net inflow in the late 1960's to a large and volatile net outflow in the 1970's, contributing considerably to the shift in total migration; the "non-workers" group (age under 18 or over 65) has also contributed heavily to this trend, with essentially neutral flows in the late

FIGURE 5.

Net Migration between Northcentral and South and West Regions

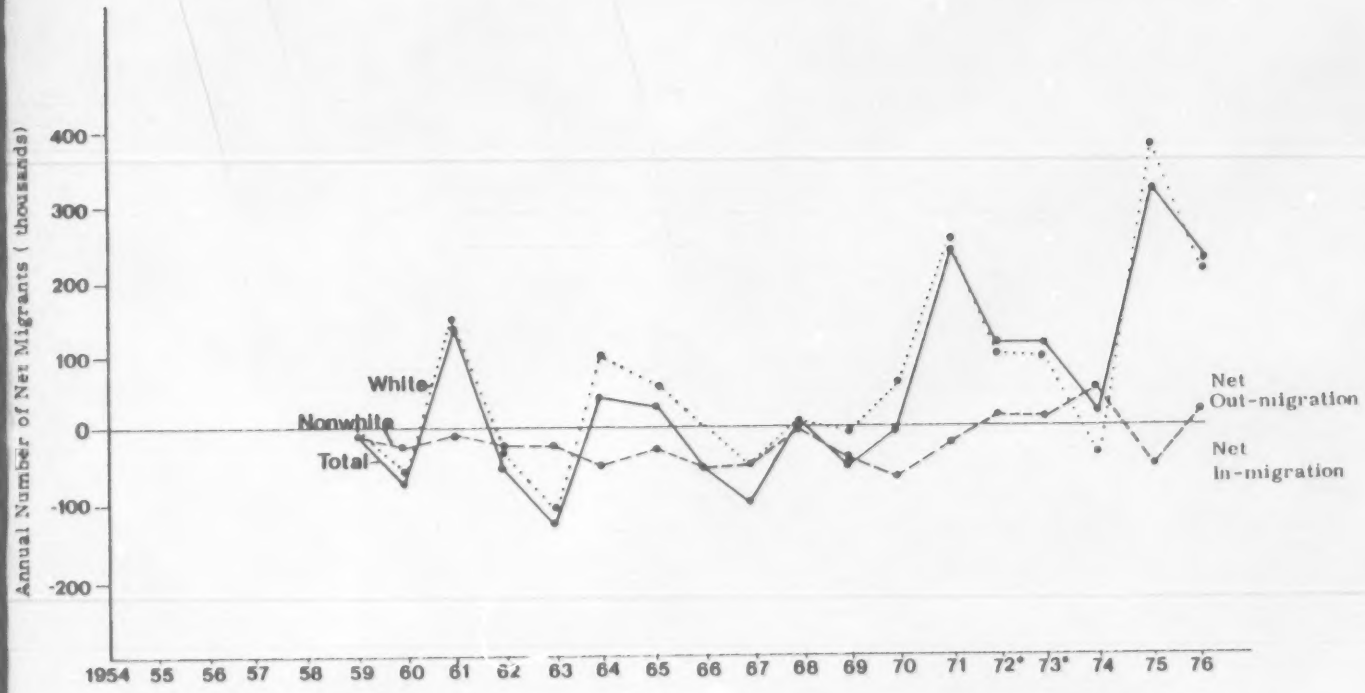


Source: Current Population Reports, Series P-20, Mobility Status of the Population, Years 1954-1976.

* Data available only for aggregate 1972-73 period, prorated equally for each year.

FIGURE 6.

Net Migration from Northcentral to South by Race



Source: Current Population Reports, Series P-20, Mobility Status of the Population, Years 1954-1976.

* Data available only for aggregate 1972-73 period, prorated equally for each year.

1960's being replaced by a steady outflow in the 1970's; "mature workers" (ages 35-65) have not contributed to the overall trend, their net migration pattern being characterized by a steady moderate net outflow (Figure 7).

Labor Force Growth Despite Population Growth Slow Down

If the unemployed were moving out of the region to bring employment into balance with those seeking jobs, out-migration could be seen as the answer to the region's problems. However, the reverse is true. The region's potential labor force is expanding while population remains stable or declines. As noted earlier, the available statistics are far from adequate on this subject. Other than age, reliable information on the characteristics of out-migrants is not available. What is known is that the levels of unemployment continue to increase in many of the region's major cities.

Slow National Growth Retards Out-Migration

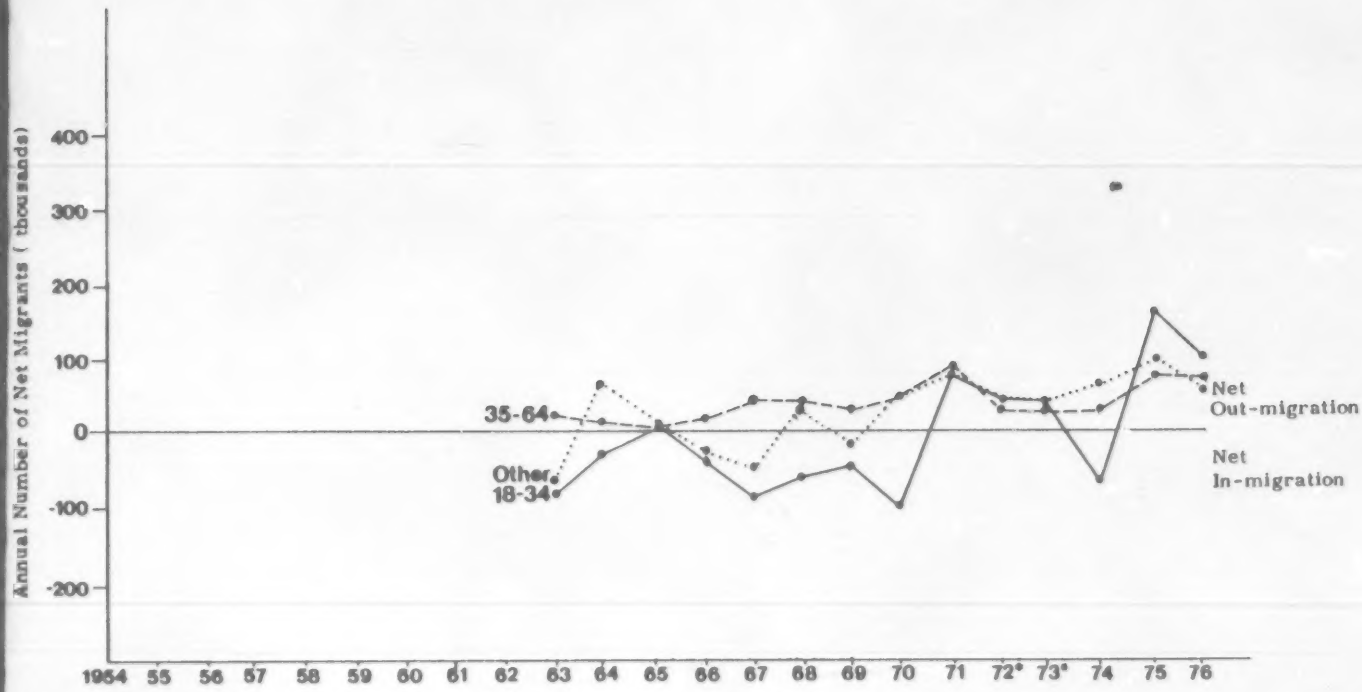
There are several reasons for this. Even if the unemployed were perfectly mobile and there were adequate job opportunities elsewhere, such a "natural" adjustment process would take time to occur. However, many of the unemployed are far from perfectly mobile and adequate numbers of certain types of jobs are not available anywhere in the country. Under such conditions it is reasonable to assume that the region will have growing concentrations of hard-core unemployed.

Hard-Core Unemployment May Increase

Part of this is a demographic phonomenon. Those born in the war-baby years, 1947 to 1961, are now entering the labor force in great numbers. Those with skills in demand are more able to move about the country in search of jobs. Those with low level skills or no skills are simply not in demand elsewhere. There is an excess supply of unskilled workers in every region of the country. They either

FIGURE 7.

Net Migration from Northcentral to South by Age



Source: Current Population Reports, Series P-20, Mobility Status of the Population, Years 1954-1976.

* Data available only for aggregate 1972-73 period, prorated equally for each year.

tend to stay where they are or their movements are cancelled out by cross-migration, e.g., an unskilled worker will move to los Angeles in a futile search for a job, while a worker from Los Angeles will move to Detroit in a similar quest.

Furthermore, the higher birth rates that prevailed for the entire population in the post-war period prevailed for a longer period for non-whites. Thus, the entrance of larger numbers of non-whites into the labor force will continue for some years to come. This will mean that the already extremely high unemployment rates among black teen-agers and young adults in the region's major cities will continue to get worse unless the number of new jobs can be increased in those same cities.

Older Workers: The Problem of Displacement

A final component of the pool of existing or potential unemployed is also a major cause for regional concern. Plant closures are not abstract statistical phenomena. The older, skilled, blue-collar workers who lose their jobs in such closings are usually not very mobile. They own homes in communities were such homes will be harder to sell than before. They are unable or unwilling to make major occupational changes. Family and other ties make them poor prospects for migration even if jobs were available for them elsewhere. The Youngstown newspaper want ads are full of white collar and professional job offerings in Texas and elsewhere. there have been few for production line workers. Thus, these people too will tend to stay where they are, hoping for the best.

III.

REGIONAL FACTORS IN THE COMPETITION FOR ECONOMIC DEVELOPMENT

While the region is at the mercy of major national and international economic forces beyond its control, there are a number of factors regionally which affect the competitive advantages of the Great Lakes area in generating and supporting economic development.

1. Energy costs in the region do tend to be slightly higher than elsewhere, although, in the view of many businessmen, availability and certainty of supply are potentially more significant problems than costs.

2. Over-all, state and local taxes in the Great Lakes States are below the national average, although some kinds of taxes may fall especially hard on some particular businesses and there is substantial variation among the states with some ranking among the highest, some the lowest of the industrial states in terms of total tax burden.

3. Particularly as a reflection of the high proportion of skilled workers in the region's industries, average manufacturing wages for the Great Lakes are higher than any region in the United States, even when adjusted for cost of living.

4. Unemployment insurance costs do not seem to represent as great a problem in this region as in the Northeast; however, Workmen's Compensation costs are greater in several of the Great Lakes states than elsewhere.

5. Fringe benefits in manufacturing tend to be more liberal than elsewhere.

6. Work stoppages are more frequent in the Great Lakes States than elsewhere.

7. Labor productivity can, at best, be regarded as slightly less than average for the region, with much internal variation within individual industries

and between sub-areas in the region. Productivity reflects levels of plant obsolescence as well as human problems on the production line.

Thus, the Great Lakes region does face competitive cost disadvantages relative to other regions. In many cases, individual cost differentials appear minor, but taken as a package, they are often decidedly more than negligible.

ENERGY COSTS

While availability and certainty of energy supply are more of a potential problem to the Great Lakes Region than cost, regional energy costs do tend to be higher than elsewhere.

Prices for all forms of energy have risen sharply since the 1973 Arab oil embargo and the subsequent five-fold increase in the price of imported crude oil. Rising relative prices of fuels are shown in the data in Tables 1 through 3. While the Great Lakes region tends to have average fuel prices comparable to the national averages, natural gas prices for industrial and commercial purposes in 1975 were about 10 percent higher than the national average and about 15 to 30 percent higher than the gas producing states in the South.

The future rate of increase in energy prices (particularly natural gas and crude oil) will be determined by international events, federal policy on regulation of natural gas and "old" oil, and the effects of conservation efforts on demand. Provided a balanced national energy policy can be developed, there is no reason to assume automatically that rising relative energy costs alone will severely affect the Great Lakes manufacturing economy and the region's long-run development.

TABLE 1.

AVERAGE ANNUAL RESIDENTIAL CONSUMPTION AND COSTS
1950-1975

Year	Gas			Electric Price ($/MMBtu)	Number 2 Fuel Oil Price ($/MMBtu)
	Consumption (MMBtu/ Customer)	Bill ($/Customer)	Price ($/MMBtu)		
1950	62.5	$ 53.15	$0.85	$8.44	$0.88
1960	104.8	104.46	1.00	7.24	1.08
1970	129.2	136.69	1.06	6.15	1.33
1975	121.9	206.24	1.69	9.40	2.81

Source: Edison Electric Institute Statistical Yearbook, and Bureau of Labor Statistics, Retail Prices and Indexes of Fuels and Utilities.

TABLE 2.

GAS UTILITY INDUSTRY AVERAGE PRICES,
BY STATE, 1950-1975(a)
($/MMBtu)

Division and State	1950	1955	1960	1965	1970	1974[R]	1975
United States	$0.46	$0.52	$0.60	$0.62	$0.64	$0.95	$1.29
New England	2.50	2.11	1.77	1.60	1.60	2.34	2.87
Middle Atlantic	1.01	1.01	1.07	1.04	1.06	1.50	1.97
East North Central	0.60	0.66	0.74	0.73	0.74	1.05	1.34
Illinois	0.56	0.61	0.77	0.74	0.73	1.05	1.35
Indiana	0.73	0.69	0.66	0.63	0.71	0.93	1.16
Michigan	0.77	0.86	0.81	0.80	0.78	1.12	1.43
Ohio	0.50	0.57	0.68	0.70	0.73	1.04	1.35
Wisconsin	1.41	1.15	1.02	0.82	0.80	1.03	1.31
West North Central	0.37	0.47	0.52	0.53	0.56	0.79	1.00
Minnesota	0.50	0.62	0.71	0.68	0.67	0.98	1.19
South Atlantic	0.59	0.64	0.73	0.72	0.72	1.07	1.39
East South Central	0.33	0.39	0.52	0.50	0.51	0.81	1.03
West South Central	0.18	0.23	0.29	0.32	0.35	0.60	0.99
Mountain	0.31	0.38	0.43	0.46	0.49	0.73	0.99
Pacific	0.42	0.50	0.59	0.57	0.58	0.94	1.31

(a) Excludes sales for resale and revenues from sales for resale.

R Revised.

Source: Gas Facts, 1975 Data, American Gas Association, Arlington, Virginia.

TABLE 3.

GAS UTILITY INDUSTRY AVERAGE PRICES,
BY STATE AND CLASS OF SERVICE, 1975
($/MMBtu)

Division and State	Total	Class of Service			
		Residential	Commercial	Industrial	Other
United States	$1.29	$1.69	$1.38	$0.99	$0.94
New England	2.87	3.22	2.67	2.21	2.17
Middle Atlantic	1.97	2.26	1.93	1.44	1.65
East North Central	1.34	1.56	1.36	1.10	1.15
Illinois	1.35	1.58	1.29	1.11	0.94
Indiana	1.16	1.45	1.24	0.91	1.35
Michigan	1.43	1.60	1.47	1.23	1.57
Ohio	1.35	1.51	1.35	1.12	1.33
Wisconsin	1.31	1.71	1.38	1.05	0.77
West North Central	1.00	1.37	1.10	0.71	0.63
Minnesota	1.19	1.59	1.36	0.86	0.58
South Atlantic	1.39	2.02	1.54	0.96	1.21
East South Central	1.03	1.43	1.16	0.80	0.90
West South Central	0.99	1.35	1.09	0.94	0.72
Mountain	0.99	1.34	1.08	0.76	0.78
Pacific	1.31	1.58	1.34	1.09	1.16

Source: Gas Facts, 1975 Data, American Gas Association, Arlington, Virginia.

Nationally, the cost of purchased fuels and purchased electricity consumed in manufacturing in 1974 was 6.4 percent of value added originating in the manufacturing sector. In the Great Lakes region, Michigan has the highest costs of purchased fuels and electricity consumed by manufacturing, about 15 percent higher than the national average, while Minnesota's costs are about 3 percent less than the national average (Figure 1). Rates of increase for all six states were substantially less than the national rate of increase, but the latter is primarily a reflection of high rates of increase on low costs in energy producing states and high rates of increase on already high costs in the Northeast.

While rising relative energy prices will have differential direct and indirect effects* on various components of the manufacturing sector, energy costs are generally considered to be only one aspect of many dimensions considered in industrial location and investment decisions.

STATE AND LOCAL TAXES

As a region, the Great Lakes states are slightly below the national average of state and local tax revenue as a percent of state personal income for 1973. In the extreme cases, Ohio's tax burden is 18.4 percent less than the U.S. average, while Minnesota's and Wisconsin's are 14 and 22 percent greater than the national figure (Table 4).

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* Rising relative energy prices will affect industry in two ways. First, the energy cost of operation will rise, depending on the industry's intensity of direct energy use. Second, the price of inputs (transportation, purchased materials, etc.) used in manufacturing will rise as supplier energy-related production costs rise. Industries which have low intensity in direct energy use may experience sharp cost increases if their purchased inputs require energy intensive production processes.

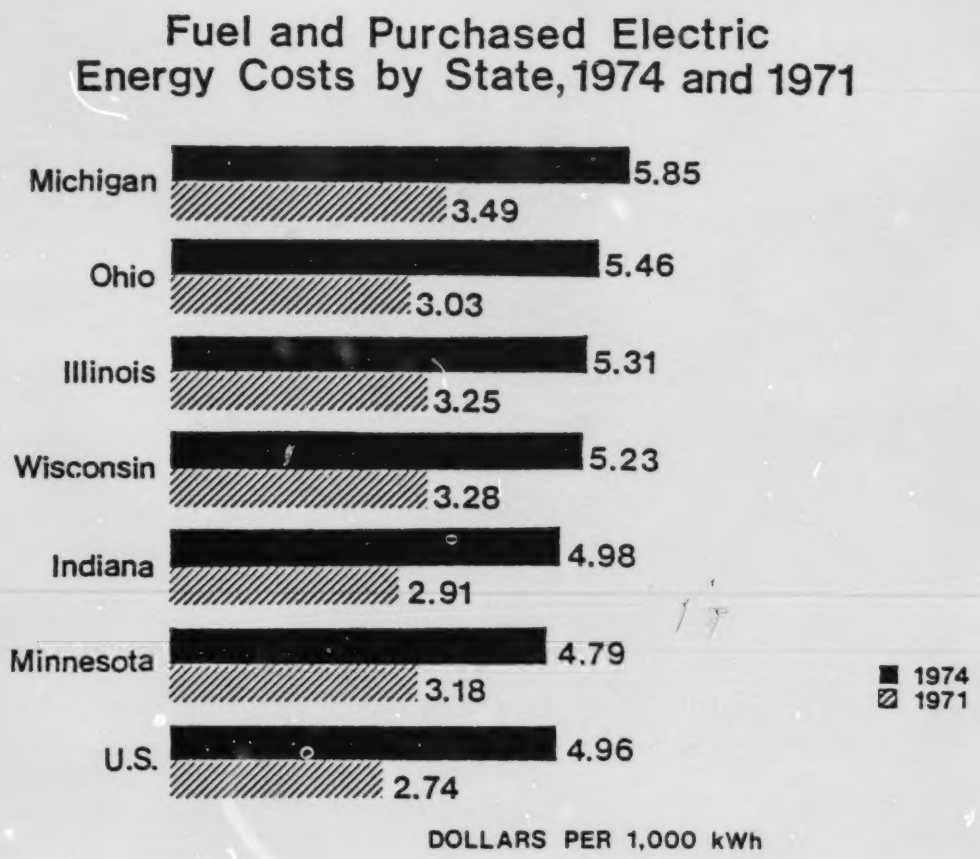

Fuel and Purchased Electric Energy Costs by State, 1974 and 1971
Michigan
5.85
3.49
Ohio
5.46
3.03
Illinois
5.31
3.25
Wisconsin
5.23
3.28
Indiana
4.98
2.91
Minnesota
4.79
3.18
U.S.
4.96
2.74
1974
1971
DOLLARS PER 1,000 kWh

FIGURE 1.

TABLE 4.

STATE-LOCAL TAX REVENUE IN RELATION TO

STATE PERSONAL INCOME

State and Region	Tax Revenue as a Percent of Personal Income			State Percent Related to U.S. Average (U.S. = 100.0)		
	1973	1963	Percent Increase or Decrease (−)	1973	1963	Percent Increase or Decrease (−)
UNITED STATES[1]	**12.09**	**7.58**	**59.5**	**100.0**	**100.0**	—
NEW ENGLAND	**13.36**	**7.90**	**69.1**	**110.5**	**104.2**	**6.0**
Connecticut	12.80	6.06	111.2	105.9	79.9	32.5[3]
Maine	13.29	8.95	48.5	109.9	118.1	− 6.9
Massachusetts	14.19	8.77	61.8	117.4	115.7	1.5
New Hampshire	10.21	8.28	23.3	84.4	109.2	−22.7[3]
Rhode Island	11.61	7.02	65.4	96.0	92.6	3.7
Vermont	16.01	9.62	66.4	132.4	126.9	4.3
MIDEAST	**13.80**	**7.46**	**85.0**	**114.1**	**98.4**	**16.0**
Delaware	8.91	4.21	111.6	73.7	55.5	32.8[3]
Maryland	12.00	6.33	89.6	99.3	83.5	18.9[3]
New Jersey	11.24	6.59	70.6	93.0	86.9	7.0
New York	16.23	8.79	84.6	134.2	116.0	15.7[3]
Pennsylvania	12.19	6.17	97.6	100.8	81.4	23.8[3]
GREAT LAKES	**11.29**	**6.78**	**66.5**	**93.4**	**89.4**	**4.5**
Illinois	11.21	6.37	76.0	92.7	84.0	10.4
Indiana	10.07	7.08	42.2	83.3	93.4	−10.8
Michigan	12.08	7.31	65.3	99.9	96.4	3.6
Ohio	9.86	5.87	68.0	81.6	77.4	5.4
Wisconsin	14.78	8.91	65.9	122.2	117.5	4.0
PLAINS	**11.32**	**8.25**	**37.2**	**93.6**	**108.8**	**−14.0**
Iowa	11.08	9.22	20.2	91.6	121.6	−24.7[3]
Kansas	10.53	8.71	20.9	87.1	114.9	−24.2[3]
Minnesota	13.74	9.38	46.5	113.6	123.7	− 8.2
Missouri	10.34	6.14	68.4	85.5	81.0	5.6
Nebraska	10.40	7.69	35.2	86.0	101.5	−15.3[3]
North Dakota	9.59	11.27	−14.9	79.3	148.7	−46.7[3]
South Dakota	11.72	10.79	8.6	96.9	142.3	−32.0[3]
SOUTHEAST	**10.56**	**7.86**	**34.4**	**87.3**	**103.7**	**−15.8**
Alabama	9.59	7.00	37.0	79.3	92.3	−14.1
Arkansas	9.43	7.92	19.1	78.0	104.5	−25.4[3]
Florida	10.70	9.20	16.3	88.5	121.4	−27.1[3]
Georgia	10.43	7.67	36.0	86.3	101.2	−14.7
Kentucky	10.59	6.47	63.7	87.6	85.4	2.6
Louisiana	12.02	10.43	15.2	99.4	137.6	−27.8[3]
Mississippi	11.38	9.37	21.5	94.1	123.6	−23.9[3]
North Carolina	10.49	8.25	27.2	86.8	108.8	−20.2[3]
South Carolina	10.67	8.61	23.9	88.3	113.6	−22.3[3]
Tennessee	10.10	7.32	38.0	83.5	96.6	−13.6
Virginia	10.38	6.09	70.4	85.9	80.3	7.0
West Virginia	10.97	6.81	61.1	90.7	89.8	1.0

TABLE 4.

(Continued)

STATE-LOCAL TAX REVENUE IN RELATION TO

STATE PERSONAL INCOME

State and Region	Tax Revenue as a Percent of Personal Income			State Percent Related to U.S. Average (U.S. = 100.0)		
	1973	1953	Percent Increase or Decrease (−)	1973	1953	Percent Increase or Decrease (−)
SOUTHWEST	**10.22**	**7.34**	**39.2**	**84.5**	**96.8**	**−12.7**
Arizona	12.70	8.50	49.4	105.0	112.1	− 6.3
New Mexico	12.06	8.66	39.3	99.8	114.2	−12.6
Oklahoma	9.67	9.07	6.6	80.0	119.7	−33.2[3]
Texas	9.75	6.68	46.0	80.6	88.1	− 8.5
ROCKY MOUNTAIN	**11.66**	**8.60**	**35.6**	**96.4**	**113.5**	**−15.1**
Colorado	11.44	8.93	28.1	94.6	117.8	−19.7[3]
Idaho	11.11	9.00	23.4	91.9	118.7	−22.6[3]
Montana	12.07	7.62	58.4	99.8	100.5	− 0.9
Utah	12.17	8.44	44.2	100.7	111.3	− 9.5
Wyoming	12.04	8.73	37.9	99.6	115.2	−13.5
FAR WEST[4]	**13.53**	**8.34**	**62.2**	**111.9**	**110.0**	**1.7**
California	13.99	8.41	66.3	115.7	110.9	4.3
Nevada	12.72	7.93	60.4	105.2	104.6	0.6
Oregon	11.72	8.24	42.2	96.9	108.7	−10.9
Washington	11.80	8.07	46.2	97.6	106.5	− 8.4
Alaska	8.92	5.03[5]	77.3	73.8	66.4	11.1
Hawaii	13.05	8.23[5]	58.6	107.9	108.6	− 0.6

[1]Excluding the District of Columbia.

[2]Indicates states that have increased their relative tax burdens by 15 percent or more.

[3]Indicates states where the relative tax burden has fallen by 15 percent or more.

[4]Excluding Alaska and Hawaii.

[5]Estimated, based on the U.S. average change between 1953 and 1957 (the earliest year readily available).

Source: Advisory Commission on Intergovernmental Relations.

Of states registering the highest increases in tax burdens (Figure 2), Illinois heads the Great Lakes contingent, while Indiana and Minnesota have experienced the lowest rates of increases. The region as a whole registered about 10 percent higher than the national average increase, often interpreted by potential plant locators as an unfavorable sign, especially in comparison to the very low rates of increase in the Southeast, Southwest, and Rocky Mountain regions.

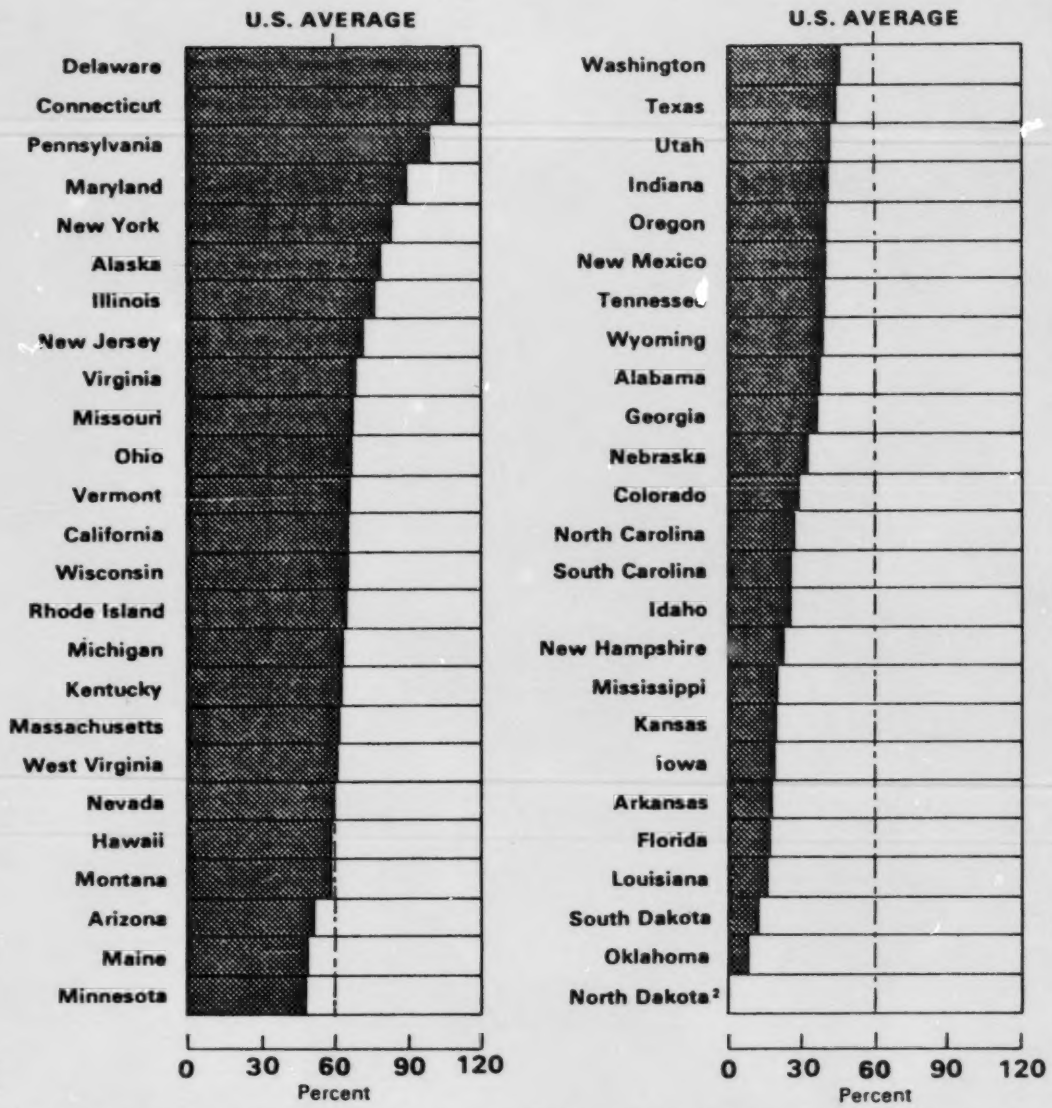
LABOR COSTS

Manufacturing Wages. Direct manufacturing labor costs for the Great Lakes region, even when adjusted for cost of living, are higher than in any other region, and about 15 percent higher than the national average hourly wages of production workers (Table 5). At the metropolitan area level Great Lakes wage discrepancies are even further out of line (Table 6). Saginaw and Flint have the highest production wages in the nation. In the highest wage quartile, 21 out of the 45 top wage payers are in the Great Lakes region; only 5 Great Lakes cities fall in the second highest quartile; and, only 3 Great Lakes cities are in the bottom earnings half.

However, it must be pointed out that much of the production employment in Great Lakes states also tends to reflect a higher percentage of top skill jobs in the same labor categories. For example, Table 7 presents four alternative

FIGURE 2.

CHANGES IN STATE-LOCAL TAX REVENUE IN RELATION TO STATE PERSONAL INCOME, 1953-1973



[1]Average State-local tax burdens rose from 7.6 percent to 12.1 percent of personal income—an increase of 60 percent.

[2]Percentage decrease (—14.9 percent).

Source: Table 14.

TABLE 5.

Labor Force, Employment, and Earnings

Production Workers, Manufacturing Industries—Hours and Gross Earnings, by States: 1960 to 1975

State	Average hourly earnings (dollars)					Average weekly earnings (dollars)					Average weekly hours			
	1960	1965	1970	1974	1975	1960	1965	1970	1974	1975	1965	1970	1974	1975
U.S. [1]	2.26	2.61	3.36	4.41	4.81	90	108	134	176	190	41.2	39.8	40.0	39.4
N.E.:														
Maine	1.77	2.06	2.71	3.51	3.81	71	85	109	141	152	41.3	40.1	40.3	39.9
N.H.	1.77	2.06	2.81	3.65	3.95	70	84	109	143	154	40.9	38.8	39.3	39.0
Vt.	1.85	2.17	2.93	3.78	4.07	77	92	120	155	164	42.4	41.0	41.1	40.4
Mass.	2.09	2.45	3.23	4.16	4.47	82	99	127	166	176	40.3	39.2	39.9	39.1
R.I.	1.88	2.18	2.85	3.62	3.84	74	89	112	142	149	40.6	39.2	39.2	38.9
Conn.	2.32	2.69	3.43	4.42	4.78	93	113	140	183	194	42.1	40.9	41.4	40.8
M.A.:														
N.Y.	2.31	2.68	3.46	4.53	4.91	90	106	135	178	191	39.7	38.9	39.4	38.9
N.J.	2.37	2.74	3.46	4.57	4.93	94	112	139	187	200	41.0	40.8	40.9	40.6
Pa.	2.31	2.66	3.36	4.57	4.96	90	108	132	180	191	40.5	39.2	39.4	38.5
E.N.C.:														
Ohio	2.60	3.01	3.81	5.12	5.55	104	127	155	211	224	42.2	40.6	41.2	40.3
Ind.	2.51	2.92	3.72	5.04	5.49	100	122	149	205	219	41.7	40.1	40.6	39.8
Ill.	2.45	2.83	3.65	4.91	5.40	98	117	147	198	215	41.4	40.3	40.4	39.7
Mich.	2.75	3.22	4.15	5.62	6.15	112	144	168	232	251	44.6	40.6	41.2	40.8
Wis.	2.37	2.75	3.61	4.81	5.26	96	115	146	197	212	41.7	40.4	41.1	40.4
W.N.C.:														
Minn.	2.36	2.72	3.54	4.66	5.10	95	112	141	186	200	41.2	40.0	40.0	39.3
Iowa	2.35	2.78	3.70	4.91	5.40	94	113	147	199	214	40.7	39.7	40.5	39.7
Mo.	2.24	2.62	3.39	4.37	4.75	88	106	133	171	185	40.3	39.3	39.2	39.0
N. Dak.	1.97	2.36	2.93	3.81	4.32	82	100	119	152	171	42.5	40.7	40.0	39.6
S. Dak.	2.02	2.37	2.98	3.79	4.20	91	104	133	157	172	43.8	44.6	41.5	41.0
Nebr.	2.08	2.40	3.21	4.06	4.51	87	104	135	167	184	43.1	42.0	41.1	40.7
Kans.	2.36	2.69	3.25	4.24	4.65	96	114	135	173	190	42.3	41.6	40.9	40.8
S.A.:														
Del.	2.31	2.77	3.44	4.88	5.07	91	115	136	183	200	41.5	39.6	40.0	39.5
Md.	2.26	2.62	3.40	4.62	5.03	91	108	136	184	197	41.2	40.1	39.9	39.1
D.C. [2]	2.49	2.82	3.81	5.20	5.52	98	114	148	199	213	40.2	38.8	38.3	38.5
Va.	1.77	2.11	2.73	3.65	3.99	71	88	109	145	156	41.5	40.0	39.8	39.2
W. Va.	2.41	2.74	3.42	4.53	5.12	93	111	136	179	197	40.4	39.8	39.6	38.5
N.C.	1.54	1.82	2.46	3.26	3.51	61	75	97	128	135	41.3	39.5	39.1	38.5
S.C.	1.57	1.88	2.51	3.32	3.59	63	79	101	132	141	41.9	40.2	39.8	39.4
Ga.	1.66	2.01	2.67	3.54	3.88	65	83	106	141	152	41.1	39.8	39.8	39.2
Fla.	1.86	2.16	2.89	3.74	4.04	76	91	119	150	160	42.3	41.1	40.2	39.7
E.S.C.:														
Ky.	2.13	2.51	3.27	4.30	4.65	84	103	129	171	180	41.0	39.4	39.7	38.8
Tenn.	1.84	2.09	2.73	3.62	3.92	73	85	109	145	156	40.8	39.9	40.0	39.8
Ala.	1.92	2.24	2.86	3.76	4.13	76	94	115	152	164	41.8	40.2	40.4	39.6
Miss.	1.52	1.82	2.43	3.18	3.55	61	75	98	125	140	41.2	40.2	39.4	39.3
W.S.C.:														
Ark.	1.56	1.83	2.48	3.30	3.59	63	75	99	129	139	41.0	39.8	39.2	38.8
La.	2.12	2.55	3.28	4.40	4.81	87	108	137	176	198	42.3	41.8	40.1	41.1
Okla.	2.10	2.41	3.09	3.97	4.41	85	101	126	161	177	42.0	40.8	40.5	40.1
Tex.	2.17	2.48	3.18	4.08	4.57	89	104	129	166	186	41.9	40.7	40.7	40.6
Mt.:														
Mont.	2.45	2.80	3.70	4.96	5.32	96	115	148	189	196	41.0	40.0	38.1	36.8
Idaho	2.25	2.65	3.29	4.39	4.72	90	106	128	171	184	40.0	38.9	39.0	38.9
Wyo.	2.54	2.86	3.36	4.85	5.11	95	106	130	194	206	37.9	38.7	40.0	40.2
Colo.	2.42	2.82	3.50	4.58	(NA)	98	116	141	184	(NA)	41.2	40.4	40.1	(NA)
N. Mex.	2.08	2.31	2.68	3.33	3.67	83	94	105	127	144	40.6	39.0	38.2	39.1
Ariz.	2.46	2.77	3.31	4.40	4.85	99	114	132	172	189	41.1	40.0	39.2	39.0
Utah	2.46	2.84	[3] 3.26	3.92	4.05	99	114	[3] 127	155	156	40.3	[3] 39.1	39.5	38.4
Nev.	2.75	3.18	4.09	4.89	5.26	113	127	161	190	201	39.9	39.3	38.8	38.2
Pac.:														
Wash.	2.63	3.09	4.06	5.23	5.79	102	122	159	204	224	39.5	39.1	39.0	38.7
Oreg.	2.55	2.94	3.82	5.02	5.54	97	117	148	194	213	39.8	38.8	38.6	38.4
Calif.	2.62	3.05	3.80	4.73	5.21	104	124	150	188	206	40.6	39.6	39.8	39.5
Alaska	(NA)	3.70	4.66	6.70	(NA)	(NA)	159	192	262	(NA)	43.1	41.2	39.1	(NA)
Hawaii	(NA)	2.28	3.17	4.28	4.62	(NA)	90	127	167	181	39.3	40.0	39.4	39.2

NA Not available.
[1] For 1960, Alaska and Hawaii included in United States averages but individual State data not available.
[2] Represents Washington, D.C., Standard Metropolitan Statistical Area; data not comparable prior to January 1973 due to change in area definition. [3] Data for 1970 not strictly comparable with earlier years.

Source: U.S. Bureau of Labor Statistics, *Employment and Earnings*, monthly. Compiled from data supplied by cooperating State agencies.

TABLE 6.

HOURS AND EARNINGS OF PRODUCTION WORKERS ON MANUFACTURING PAYROLLS FOR THE NATION AND MAJOR AREAS, 1975

Major area	Average weekly earnings	Average weekly hours	Average hourly earnings
United States	$189.51	39.4	$4.81
Saginaw, Mich.	292.33	41.4	7.06
Galveston – Texas City, Tex.	287.74	43.4	6.63
Flint, Mich.	285.08	41.4	6.89
Waterloo – Cedar Falls, Iowa	267.87	40.1	6.68
Detroit, Mich.	266.66	41.0	6.50
Ann Arbor, Mich.	265.60	41.0	6.48
Bay City, Mich.	264.22	44.7	5.91
Battle Creek, Mich.	261.71	41.6	6.29
Lansing – East Lansing, Mich.	260.14	40.8	6.38
Kenosha, Wisc.	259.00	39.9	6.49
Dubuque, Iowa	251.55	38.7	6.50
Las Vegas, Nev.	248.52	39.7	6.26
Baton Rouge, La.	248.30	42.3	5.87
Youngstown – Warren, Ohio	246.65	38.6	6.39
San Francisco – Oakland, Calif.	241.96	38.9	6.22
Beaumont – Port Arthur, Tex.	241.79	39.9	6.06
Monroe County, N.Y.[1]	239.90	40.8	5.88
Dayton, Ohio	236.90	41.2	5.75
Akron, Ohio	236.49	41.2	5.74
Casper, Wyo.	236.49	39.2	6.03
Buffalo, N.Y.	236.40	40.0	5.91
Toledo, Ohio	233.69	40.5	5.77
Seattle – Everett, Wash.	233.05	39.3	5.93
Pittsburgh, Pa.	232.06	39.6	5.86
Milwaukee, Wisc.	231.92	40.3	5.75
Madison, Wisc.	231.15	39.9	5.79
Jackson, Mich.	229.58	40.8	5.63
Rochester, N.Y.	228.98	40.6	5.64
Racine, Wisc.	227.76	39.7	5.74
Cleveland, Ohio	227.29	40.3	5.64
Charleston, W.Va.	225.91	41.0	5.51
Houston, Tex.	225.78	42.6	5.30
Wilmington, Del.	224.97	39.4	5.71
Kalamazoo – Portage, Mich.	224.78	40.5	5.55
Stockton, Calif.	224.31	39.7	5.65
Des Moines, Iowa	224.25	39.0	5.75
Canton, Ohio	222.78	39.5	5.64
Sioux Falls, S.Dak.	222.04	42.7	5.20
Trenton, N.J.	222.03	43.3	5.12
Tacoma, Wash.	221.95	38.4	5.78
Sacramento, Calif.	221.31	39.1	5.66
Indianapolis, Ind.	221.10	40.2	5.50
Eugene – Springfield, Oreg.	220.77	38.8	5.69
San Jose, Calif.	219.29	39.3	5.58
Muskegon – Norton Shores – Musk. Hgts., Mich.	217.89	40.5	5.38
Cedar Rapids, Iowa	217.35	40.4	53.8
Hartford, Conn.	216.84	41.7	5.20
Green Bay, Wisc.	216.69	41.7	5.20
Johnstown, Pa.	216.00	37.5	5.76
St. Louis, Mo.	215.56	39.4	5.47
Vallejo – Fairfield – Napa, Calif.	215.39	38.6	5.58
Wichita, Kans.	215.10	42.2	5.09
Louisville, Ky.	214.58	39.3	5.46
Minneapolis – St. Paul, Minn.	214.38	39.7	5.40
New Bruns. – Perth Amboy – Sayreville, N.J.[2]	213.73	40.3	5.31
Portland, Oreg.	212.74	38.4	5.54
Huntington – Ashland, W.Va.	212.62	38.8	5.48
Washington, D.C., SMSA	212.52	38.5	5.52
Parkersburg – Marietta, W.Va.	212.13	40.1	5.29
Kansas City, Mo.	211.33	39.5	5.35
Cincinnati, Ohio	210.94	40.8	5.17
Jackson County, Oreg.	210.48	38.2	5.51
Newark, N.J.[2]	208.37	41.6	5.01
Riverside – San Bernardino – Ontario, Calif.	208.15	39.8	5.23
Columbus, Ohio	206.98	39.5	5.24
Bakersfield, Calif.	$206.56	39.8	$5.19
Baltimore, Md.	206.33	39.3	5.25
Grand Rapids, Mich.	206.28	39.7	5.20
Erie, Pa.	205.09	41.1	4.99
Syracuse, N.Y.	204.93	40.5	5.06
Wheeling, [illegible]	204.80	40.0	5.12
Spokane, Wash.	203.81	38.6	5.28
Bridgeport, Conn.	202.62	40.8	4.97
Omaha, Nebr.	202.11	40.9	4.94
Appleton – Oshkosh, Wisc.	201.77	40.9	4.93
Stamford, Conn.	201.28	40.5	4.97
Birmingham, Ala.	201.20	40.0	5.03
Delaware Valley, Pa.[3]	200.72	38.9	5.16
Mobile, Ala.	200.07	40.5	4.94
Jacksonville, Fla.	199.41	41.2	4.84
Albany – Schenectady – Troy, N.Y.	199.40	39.8	5.01
New Britain, Conn.	199.02	40.7	4.89
Philadelphia, Pa., SMSA	198.00	38.9	5.09
Northern Virginia[4]	197.90	39.9	4.96
Poughkeepsie, N.Y.	197.31	39.7	4.97
Modesto, Calif.	197.10	38.8	5.08
Corpus Christi, Tex.	196.43	40.5	4.85
West Palm Beach – Boca Raton, Fla.	196.27	42.3	4.64
San Diego, Calif.	195.97	38.5	5.09
Los Angeles – Long Beach, Calif.	194.44	39.6	4.91
Tulsa, Okla.	194.17	40.2	4.83
Topeka, Kans.	194.10	40.2	4.83
Anaheim – Santa Ana – Garden Grove, Calif.	193.68	40.1	4.83
New Orleans, La.	193.19	40.5	4.77
Boston, Mass.	193.16	39.5	4.89
Hackensack, N.J.[2]	191.60	39.6	4.84
New Haven – West Haven, Conn.	191.35	39.7	4.82
Pensacola, Fla.	191.27	39.6	4.83
Paterson – Clifton – Passaic, N.J.[2]	191.24	40.5	4.72
Jersey City, N.J.[2]	191.00	39.9	4.79
Phoenix, Ariz.	190.81	39.1	4.88
Tucson, Ariz.	190.81	39.1	4.88
Allentown – Bethlehem – Easton, Pa.	190.46	38.4	4.96
Savannah, Ga.	190.11	41.6	4.57
Rockland County, N.Y.[5]	190.03	41.4	4.59
Sioux City, Iowa	188.57	38.8	4.86
New York – Northeastern New Jersey	187.59	39.0	4.81
Burlington, Vt.	187.50	41.3	4.54
Binghamton, N.Y.	187.46	40.4	4.64
Duluth – Superior, Minn.	187.23	39.5	4.74
Memphis, Tenn.	186.99	40.3	4.64
Nassau – Suffolk, N.Y.[6]	186.98	39.2	4.77
Springfield, Vt.	186.86	40.8	4.58
St. Joseph, Mo.	185.84	40.4	4.60
Salinas – Seaside – Monterey, Calif.	185.74	37.6	4.94
Santa Rosa, Calif.	184.26	37.0	4.98
Elmira, N.Y.	184.14	39.6	4.65
La Crosse, Wisc.	183.83	41.3	4.45
Richmond, Va.	183.35	39.6	4.63
Camden, N.J.[3]	182.18	39.1	4.66
Fresno, Calif.	181.12	38.7	4.68
Fargo – Moorhead, N.Dak.	180.97	39.6	4.57
Westchester County, N.Y.[5]	180.42	38.8	4.65
Atlanta, Ga.	180.03	38.8	4.64
Oxnard – Simi Valley – Ventura, Calif.	179.79	39.0	4.61
York, Pa.	178.67	40.7	4.39
Worcester, Mass.	177.00	38.9	4.55
Knoxville, Tenn.	177.18	39.2	4.52
Shreveport, La.	176.92	40.3	4.39
New York and Nassau – Suffolk, N.Y.[2]	176.81	[illegible]	4.69

See footnotes at end of table

TABLE 6. (Continued)

Major area	Average weekly earnings	Average weekly hours	Average hourly earnings
Santa Barbara – Santa Maria – Lompoc, Calif	$176.73	39.1	$4.52
Reading, Pa	176.46	39.3	4.49
Springfield – Chicopee – Holyoke, Mass	175.82	39.6	4.44
Oklahoma City, Okla	175.82	39.6	4.44
New York, N.Y., SMSA[5]	175.03	37.4	4.68
Harrisburg, Pa	174.78	39.1	4.47
Nashua, N.H	174.68	39.7	4.40
Honolulu, Hawaii	174.57	38.2	4.57
Dallas – Fort Worth, Tex	174.10	40.3	4.32
New York City, N.Y.[5]	174.00	37.1	4.69
Tampa – St. Petersburg, Fla	173.66	40.2	4.32
Williamsport, Pa	173.26	39.2	4.42
Utica – Rome, N.Y	172.62	39.5	4.37
Lancaster, Pa	171.30	39.2	4.37
Lawrence – Haverhill, Mass	169.99	38.9	4.37
Pine Bluff, Ark	169.26	39.0	4.34
Chattanooga, Tenn	168.87	40.4	4.18
Lincoln, Nebr	168.17	38.9	4.32
Waterbury, Conn	167.26	40.5	4.13
Amarillo, Tex	165.98	39.9	4.16
Charleston – North Charleston, S.C	163.62	40.4	4.05
Orlando, Fla	162.81	40.3	4.04
Nashville – Davidson, Tenn	160.63	38.8	4.14
Portland, Me	160.40	39.9	4.02
Springfield, Mo	160.24	38.8	4.13
Norfolk – Virginia Beach – Portsmouth, Va	159.20	39.8	4.00
Waco, Tex	159.19	40.3	3.95
Lowell, Mass	159.01	38.5	4.13
Wichita Falls, Tex	158.79	39.5	4.02
Altoona, Pa	158.76	37.8	4.20
Little Rock – North Little Rock, Ark	$157.92	38.8	$4.07
Austin, Tex	157.47	40.9	3.85
Fort Lauderdale – Hollywood, Fla	156.35	38.7	4.04
Salt Lake City – Ogden, Utah	156.00	39.0	4.00
Lynchburg, Va	154.45	39.4	3.92
Raleigh – Durham, N.C	150.90	38.3	3.94
Atlantic City, N.J	150.62	36.0	4.19
Albuquerque, N.Mex	149.69	39.6	3.78
Providence – Warwick – Pawtucket, R.I	148.92	38.9	3.83
Greensboro – Winston-Salem – High Point, N.C	147.84	38.5	3.84
Jackson, Miss	147.06	40.4	3.64
New Bedford, Mass	145.43	37.1	3.92
Brockton, Mass	145.16	37.9	3.83
Lubbock, Tex	144.49	40.7	3.55
Columbia, S.C	143.93	38.9	3.70
San Antonio, Tex	143.91	41.0	3.51
Miami, Fla	143.13	39.0	3.67
Roanoke, Va	141.93	39.1	3.63
Manchester, N.H	140.56	38.3	3.67
Northeast Pennsylvania	140.34	35.8	3.92
Greenville – Spartanburg, S.C	139.98	39.1	3.58
Scranton, Pa.[7]	139.65	35.9	3.89
Wilkes-Barre – Hazleton, Pa.[7]	138.90	35.8	3.88
Fort Smith, Ark	137.63	37.5	3.67
Charlotte – Gastonia, N.C	136.50	39.0	3.50
Asheville, N.C	133.52	38.7	3.45
El Paso, Tex	129.03	37.4	3.45
Fayetteville – Springdale, Ark	128.43	38.8	3.31
Lewiston – Auburn, Me	125.07	37.9	3.30
Fall River, Mass	124.6	35.2	3.54

[1] Subarea of Rochester Standard Metropolitan Statistical Area
[2] Subarea of New York – Northeastern New Jersey
[3] Subarea of Philadelphia – Pennsylvania Standard Metropolitan Statistical Area
[4] Subarea of Washington, D.C. Standard Metropolitan Statistical Area
[5] Subarea of New York Standard Metropolitan Statistical Area
[6] Area included in New York and Nassau – Suffolk combined SMSA's
[7] Subarea of Northeast Pennsylvania Standard Metropolitan Statistical Area

NOTE: Denver – Boulder, Colorado and Cheyenne, Wyoming annual averages for 1975 are not available.

Source: Employment and Earnings

TABLE 7.

Actual and Standardized All Industry Average Hourly Earnings of
Production Workers in Durable Goods Manufacturing Industries
In the United States and the Great Lakes States, 1972
(Percentages in Parenthesis are Relative all Industry Average Earnings Rates)

	United States	Great Lakes States	Michigan	Ohio	Indiana	Illinois	Wisconsin
Actual Wage Rate	$4.29 (100)	$4.75 (110)	$5.25 (122)	$4.77 (111)	$4.62 (108)	$4.39 (102)	$4.51 (105)
Standardized Averages							
U. S. rate-constant	4.29 (100)	4.41 (103)	4.57 (107)	4.44 (104)	4.37 (102)	4.27 (100)	4.31 (101)
Great Lakes Rate-constant		4.75 (100)	4.99 (105)	4.77 (100)	4.69 (99)	4.56 (96)	4.62 (97)
U. S. employment-constant	4.29 (100)	4.59 (107)	4.89 (114)	4.57 (107)	4.46 (104)	4.35 (101)	4.42 (103)
Great Lakes employment-constant		4.75 (100)	5.03 (106)	4.74 (100)	4.59 (97)	4.42 (93)	4.57 (96)

SOURCE: Dr. John Mattila, Wayne State University, Unpublished Working Paper "Industry Mix and Earnings Rates in Michigan, the Great Lakes Region, and the United States, 1972."

"standardized all-industry average hourly earnings rates". The first standardized set of averages is a U.S. rate-constant average hourly earnings rate obtained by multiplying the employment of each local industry by the U.S. average hourly earnings and dividing the sum of these cross products by the total local employment. By holding wage rates constant these averages show the effect of regional specialization of "industry mix" on the state's average wage rate. For example, Michigan's standardized wage rate of $4.57 is 7 percent above the national average of $4.29 because Michigan's employment is concentrated in high wage industries. It is only 4 percent above the Great Lakes average of $4.41 because there is greater similarity in the industrial structures of Michigan and the Great Lakes region. Illinois, being the most diversified of the Great Lakes states, is only 2 percent above the national average by this measure.

The second row of standardized averages in Table 7 shows Great Lakes rate-constant hourly earnings averages computed by multiplying the industry employment of each state by the Great Lakes average hourly earnings, and dividing the sum by state employment totals. When wage rates are held constant at the Great Lakes average, Michigan is 5 percent above the average because of its concentration of employment in high wage industries.

The third row of standardized all-industry averages in Table 7 presents U.S. employment-constant average hourly earnings rates, obtained by multiplying local industry average hourly earnings by national industry employment and dividing the sum of these cross products by the national total employment. By holding national industry mix constant, these averages reveal to what extent the wage structure of each state is above the national average. Thus the Michigan average of $4.89 is 14 percent above the national average because all manufacturing

industries used in this comparison have average hourly earnings in Michigan which are above the national averages for those industries. Illinois is not only the most diversified of the Great Lakes states but also it appears to have the lowest average wage structure.

The final row shows Great Lakes employment constant average hourly earnings rates, when the Great Lakes industry mix is held constant. Because of the homogeneity of the region, the differentials are greatly reduced. Michigan's rate is only 6 percent higher than the regional average in this case.

Unemployment Insurance and Workmen's Compensation. Unlike its sister Northeast region, the Great Lakes region does not appear to have disparity problems in unemployment insurance. In terms of contributions collected from employers relative to wages subject to tax, the Great Lakes is actually below the U.S. average by 25 percent, Michigan being an obvious exception. While such labor "costs" are still a third higher than in the Southeast, unemployment costs to Great Lakes employers are only half those in the Northeast (Tables 8-10).

Conversely, workmen's compensation costs do appear to be a problem in the Great Lakes. The region's share of national payments has increased over time with no indications that this will change in the future (Table 11). There are large state-by-state variations, but payments are still increasing in a region whose work force is diminishing relative to U.S. employment growth. A shrinking relative work force should generate less of a share of workmen's compensation payments. This is not the case.

Fringe Benefits. The U.S. Department of Labor estimates that fringe benefits accounted for 19.5 percent of total compensation in 1972, up from 18.1 percent in 1970 and 17 percent in 1966. For manufacturing industries, fringe benefits accounted for 18.4 percent, 20.2 percent and 21.5 percent of total compensation in 1966, 1970, and 1972 respectively.

TABLE 8.

GREAT LAKES

STATE UNEMPLOYMENT INSURANCE SUMMARY - 1975

	(1) Average Weekly Benefit	(2) Average Weekly Wage	(3) (1)/(2) (percent)	(4) Contribution collected from employers ($ millions)	(5) Wages Subject to Unemployment Insurance Tax ($ millions)	(6) (4)/(5) (percent)
U. S.	70.23	190.29	36.9	5,208	261,960	1.99
Illinois	* 78.24	215.66	36.3	176	14,942	1.18
Indiana	* 63.89	193.79	33.0	75	6,541	1.14
Michigan	* 81.47	225.05	36.2	284	10,472	2.71
Minnesota	69.15	184.09	37.6	85	5,011	1.69
Ohio	* 79.09	202.19	39.1	181	13,429	1.34
Wisconsin	80.05	184.47	43.4	106	5,253	2.02
Great Lakes Region	-	-	37.6	907	55,648	1.63 (weighted average)

* Includes dependents allowances.

Source: Data compiled from Unemployment Insurance Statistics, Annual Report of the Secretary of Labor

TABLE 9.

NORTHEAST
STATE UNEMPLOYMENT INSURANCE SUMMARY - 1975

	(1) Average Weekly Benefit	(2) Average Weekly Wage	(3) (1)/(2) (percent)	(4) Contributions Collected from Employers ($ millions)	(5) Wages Subject to Unemployment Insurance Tax ($ millions)	(6) (4)/(5) (percent)
U.S.	70.23	190.29	36.9	5,208	261,960	1.99***
Connecticut	75.96 *	200.52	37.9	141	5,322	2.65
Maine	56.52	152.31	37.1	30	1,103	2.70
Massachusetts	72.98 *	184.76	39.5	270	7,134	3.78
New Hampshire	60.62	159.84	37.9	15	962	1.59
New Jersey	75.53	207.64	36.4	375 **	10,137	3.70
New York	72.82	215.80	33.7	652	22,398	2.91
Pennsylvania	81.04 *	192.94	42.0	401	14,481	2.77
Rhode Island	67.75 *	164.65	41.1	46	1,227	3.72
Vermont	67.00	157.78	42.5	11	506	2.27
Northeast Region	-	-	38.68	1,941	63,270	3.07 (weighted average)

* Includes dependents' allowances.
** Includes contributions from employees in states which tax workers.
*** The U.S. figure for employer contributions as a percent of taxable wages declines to 1.64 when the Northeast is removed.

Source: Data compiled from Unemployment Insurance Statistics and Annual Report of the Secretary of Labor.

TABLE 10.

SOUTHEAST
STATE UNEMPLOYMENT INSURANCE SUMMARY - 1975

	(1) Average Weekly Benefit	(2) Average Weekly Wage	(3) (1)/(2) (percent)	(4) Contributions Collected from Employers ($ millions)	(5) Wages Subject to Unemployment Insurance Tax ($ millions)	(6) (4)/(5) (percent)
U.S.	70.23	190.29	36.9	5,208	261,960	1.99
Alabama	60.92	165.36	36.8	38*	3,726	1.03
Florida	61.88	170.32	36.3	93	9,561	.97
Georgia	60.72	170.19	35.7	50	5,791	.86
Kentucky	64.44	182.21	35.4	55	3,345	1.65
Mississippi	48.40	147.63	32.8	18	2,232	.83
North Carolina	59.32	156.82	37.8	75	6,742	1.12
South Carolina	61.70	153.57	40.2	31	3,182	.98
Tennessee	56.98	165.26	34.5	77	4,749	1.62
Southeast Region	-	-	36.19	437	39,328	1.11 (weighted average)

* Includes contributions from employees in states which tax workers.

Source: Data compiled from Unemployment Insurance Statistics and Annual Report of the Secretary of Labor.

TABLE 11.

STATE WORKMEN'S COMPENSATION PAYMENTS
1950-1974

($ Millions)

	1950	1960	Growth Rate 1950-1960 (percent)	1970	Growth Rate 1960-1970 (percent)	1974	Growth Rate 1970-1974) (percent)
United States	591.4	1235.0	108.8	2789.1	125.8	4475.7	60.5
Illinois	31.1	67.4	116.7	144.1	113.8	219.7	52.5
Indiana	8.9	18.1	103.4	43.9	142.5	55.6	26.7
Michigan	23.1	48.9	111.7	197.9	304.7	311.8	57.6
Minnesota	9.7	22.0	126.8	46.5	111.4	76.4	64.3
Ohio	40.4	99.1	145.3	197.0	98.8	358.9	82.2
Wisconsin	13.4	22.1	64.9	44.1	99.5	64.4	46.0
Great Lakes Region/U.S.	21.4%	22.5%		24.1%		24.3%	

Source: Social Security Bulletin.

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Unfortunately, comprehensive and up-to-date information on fringe benefits by state and by occupation does not exist. However, the Bureau of Labor Statistics has gathered certain data by metropolitan areas (Table 12). Based upon this limited sample it would appear that fringe benefits are more liberal in the Great Lakes region.

Note that Muskegon ranks at or near the top for all the benefits listed in the comparison.

Work Stoppages. The Great Lakes Region, with 21.6 percent of total 1974 employment, had 28.5 percent of total national work stoppages, 25.6 percent of total workers involved in work stoppages, and 28.7 percent of national days idle due to work stoppages (Table 13).

Productivity. There are several double-edged swords which must be confronted in assessing productivity, especially given the paucity of meaningful, accurate data by which to measure it. At one level, there are large differences between the Clevelands and Detroits and the smaller "exurban" towns and outlying suburbs, i.e., the "newer" plants are more often located in the latter; many of the older, obsolescent plants in the former. Similarly, there are large variations between states in the region, individual SMSA's within the region, and among SMSA's within the same states.

At the overall six state regional level, value added per employee (Table 14) would indicate that in all but three of the calculated Great Lakes industry groups, Great Lakes industries were more productive than the national average. The latter generally holds up in a sector-by-sector comparison with Northeast productivity figures (Table 15). However, as productivity in Tables 14

TABLE 12.

FRINGE BENEFITS FOR SELECTED METROPOLITAN APEAS - 1972

		METROPOLITAN AREAS									
		GREAT LAKES REGION					OTHER STATES				
PLANT WORKERS - MANUFACTURING	AVERAGE*	Muskegon Mich.	Dayton Ohio	South Bend Ind.	Rockford Ill.	Milwaukee Wisc.	Worcester Mass.	Philadelphia Penn.	Richmond Va.	Dallas Tex.	San Diego Cal.
Paid Holidays[1]	8½	10	10½	10	10	10	9	9	8½	7½	8
Life Insurance[2]	93	100	99	100	98	97	95	98	97	100	100
Sickness & Acci. Ins.[2/3]	85	100	98	89	96	97	89	95	87	81	83
Dental Ins.[2]	11	1	2	0	5	3	2	1	0	0	47
Retirement Pension[2]	78	96	93	80	79	85	80	92	80	63	84
OFFICE WORKERS-											
Paid Holidays[1]	9	9½	9	8	9	9	10	9	8	8	8
Life Insurance[2]	97	99	99	96	95	95	98	99	99	97	97
Sickness & Acci. Ins.[2/3]	85	98	91	94	95	87	94	87	82	82	92
Dental Ins.[2]	9	6	2	1	4	5	3	4	3	1	31
Retirement Pension[2]	85	95	95	79	82	89	93	86	88	76	89

1=number, mean of distribution
2=percentage of workers covered
3=or sick leave or both
*=average of 299 SMSAs surveyed

Source: Area Wage Surveys, Selected Metropolitan Areas 1971-72, U. S. Dept. of Labor, Bureau of Labor Statistics

TABLE 13.

WORK STOPPAGES, BY STATES: 1974

State	Work stoppages	Workers involved (1,000)	Days idle during year (1,000)
United States	6,074	2,778	47,991
Great Lakes	1,732	712	13,793
Ohio	560	205	3,335
Indiana	206	92	1,937
Illinois	416	212	3,793
Michigan	346	122	3,131
Wisconsin	117	61	1,196
Minnesota	87	20	401

TABLE 14.

U.S. AND GREAT LAKES VALUE ADDED PER EMPLOYEE
BY MAJOR INDUSTRY GROUP -- 1958-1972

SIC Code		1958 Percent of U.S.	1963 Percent of U.S.	1967 Percent of U.S.	1972 Percent of U.S.
20	Food	93	122	111	111
21	Tobacco	NA	NA	45	NA *
22	Textile Mill	NA	116	123	135
23	Apparel	103	115	118	134
24	Lumber & Wood	69	66	116	98
25	Furniture	116	107	116	115
26	Paper	148	146	96	97
27	Printing	112	111	98	102
28	Chemicals	79	73	103	105
29	Petroleum	108	120	86	104
30	Rubber	114	78	NA	100
31	Leather	NA	NA	NA	NA
32	Stone, Clay, Glass	87	84	105	103
33	Primary Metal	105	91	100	104
34	Fabricated Metal	106	94	102	107
35	Machinery	104	110	104	101
36	Electric	102	96	100	105
37	Transportation	104	105	109	109
38	Instruments	64	69	89	81
39	Miscellaneous	NA	86	102	NA
	All Industries	108	111	107	108

* NA means not available for a given state, thereby making the six state total impossible to derive.

Source: U.S. Census of Manufactures, 1958, 1963, 1967, 1972.

TABLE 15.

VALUE ADDED PER EMPLOYEE, NORTHEAST REGION
VERSUS U.S., 1958 - 1972

SIC Code		1958 Per Cent of U.S.	1963 Per Cent of U.S.	1967 Per Cent of U.S.	1972 Per Cent of U.S.
20	Food	102	103	103	102
21	Tobacco	43	51	46	NA
22	Textile Mill Prod.	112	108	107	107
23	Apparel	108	108	108	115
24	Lumber & Wood	104	95	NA*	89
25	Furniture	104	102	102	103
26	Paper	89	89	88	87
27	Printing	109	111	110	111
28	Chemicals	97	95	95	99
29	Petroleum	70	78	70	NA
30	Rubber	91	88	NA	89
31	Leather	96	93	94	95
32	Stone, Clay, Glass	94	94	NA	97
33	Primary Metal	92	91	97	92
34	Fabricated Metal	96	98	NA	97
35	Machinery	94	95	98	101
36	Electric	96	94	NA	96
37	Transportation	97	87	NA	88
38	Instruments	104	108	NA	119
39	Miscellaneous	96	97	102	102
	All Industries	93	92	97	94

* NA means not available for either New England or Mid-Atlantic, thereby making the total Northeast figure impossible to derive.
Source: U.S. Census of Manufactures, 1958, 1963, 1967, and 1972.

and 15 is measured in terms of value added per employee, rather than in terms of value added per unit cost per employee (the data for which are difficult to obtain and even more difficult to interpret), differences in unit costs of labor can overstate productivity estimates. Value added is determined not only by the skill and productivity of the work force, but also by the amount and efficient use of capital. Since value added figures include wages paid, a region with higher wage rates would automatically have a high total value added. Furthermore, the data on value added in this section were derived from sample surveys taken in each of the four years and are subject to some statistical error. Finally, economists do not generally agree on which value added measure is the most representative.

But one way of interpreting the Table 14 figures could be the following: as labor costs adjusted for cost of living are as much as 10 percent higher than the national average, an off-line adjustment to the 1972 figures would force the productivity figures down to slightly below average U.S. productivity.

A slightly different way of looking at productivity is found in Table 16, which measures productivity in terms of value added/payroll. In this case, the regional figure (East North Central estimate) falls slightly below the U.S. average, or in agreement with the adjustment made to the Table 14 all-industry estimate.

A third way of looking at productivity is presented in Table 17. Note that on a production man-hour basis, four of the five East North Central states are more productive than the nation. But when value added is measured as a function of wages, only Illinois comes out with a better than national average productivity.

Still, the key point to be made is that the "average," all-industry situation hides many industry specific characteristics over the region. There are pluses

TABLE 16.

RATIO OF VALUE ADDED TO PAYROLL IN MANUFACTURING
BY REGION, 1963-1972

Region	Value Added/Payroll 1963	1972	% Change 1963-72
New England	1.73	1.89	9.25
Middle Atlantic	1.78	1.90	6.70
East North Central	1.92	1.99	3.65
West North Central	2.00	2.11	5.50
South Atlantic	2.11	2.15	1.90
East South Central	2.23	2.31	3.47
West South Central	2.36	2.40	1.70
Mountain	2.03	2.19	7.88
Pacific	1.82	2.04	12.09
Nation	1.92	2.03	5.73
Variance	0.051	0.038	-25.5

Source: The Rand Corporation from data in the U.S. Census of Manufactures, 1963 and 1972, and U.S. Department of Commerce.

Courtesy: Roger J. Vaughan and the Rand Corporation, "The Impact of Federal Policies on Urban Development," The Rand Corporation, June, 1977.

TABLE 17.

VALUE ADDED BY MANUFACTURING
per 1972 Production Man-Hour and per Dollar of Wages

State	Value Added/ Production Man-Hour		Value Added/ Dollars of Wages	
	Actual	As % of Michigan	Actual	As % of Michigan
U. S. Average	13.26	89.8	3.36	116.5
Michigan	14.77	100.0	2.89	100.0
Ohio	14.42	97.6	3.12	108.0
Indiana	13.54	91.7	3.04	105.2
Illinois	14.52	98.3	3.37	116.6
Wisconsin	13.10	88.7	3.08	106.6

Computed by the Michigan Department of Commerce, Office of Economic Expansion from Annual Survey of Manufactures, 1971 ; U.S. Census of Manufactures, 1972, Advance Report.

and minuses. Also, it must be kept in mind that many of the individual industry estimates for the region reflect labor working on old or obsolescent equipment, in which case it is difficult to compare their productivity with that of a Southwest laborer producing the same unit of output on brand new equipment. Indeed, it is quite possible that Great Lakes labor is very efficient in working with old equipment. Summarizing the available data and their range of possible interpretations, productivity in the Great Lakes can, at best, be regarded as slightly below average, with more problems in the older, industrial centers.

PART TWO

STIMULATING THE GREAT LAKES ECONOMY

IV.

A REGIONAL DEVELOPMENT STRATEGY

Main Objective

The principal objective for any economic stimulation strategy in the Great Lakes Region is to ease the region's transition from an industrial to a post-industrial economy. For as long into the future as it is practical to foresee, the Great Lakes region will continue to serve as the major heavy manufacturing region of the United States.

However, continuing substitution of capital for labor as the region's industry modernizes, plus the slow growth of manufacturing employment nationally, confronts the region with a set of economic development challenges it did not face in the past: it must broaden and deepen the diversity of its economic base sufficiently to generate enough new jobs to absorb both displacements and the natural increase in the region's labor force and to provide improving incomes as well. All six states have their own development programs addressed to some degree to this end. The question is: what, if anything, should or can they do together to accomplish these aims?

Toward a Strategy

An economic development strategy for the region should recognize realities concerning the major potential sources of job growth.

1. Much of the new job growth in the region is most likely to come from the expansion of existing enterprise. The strategy, therefore, should focus first on retention and expansion of employment related to its existing job base. This calls for even-handed, equitable, and predictable tax policies and services rather than narrowly focused incentives that favor only businesses moving into the region or a state.

2. The second largest source of job growth is likely to continue to be the birth of new enterprise. The strategy must seek to create within the region and the individual states, a climate highly hospitable toward new start-up investment with facilitated access to capital and competitive over-all costs for doing business.

3. The least significant source of new job growth is likely to continue to be the interstate migration of industry. The least relevant tools for economic development, therefore, are incentives designed to encourage the relocation from another area of existing industry.

4. Future growth in manufacturing employment in the region will depend upon success in stimulating growth within the region of those sectors of manufacturing that account for employment growth; i.e., those "new" industries based on innovative, new technologies with developing markets and expanding work forces.

5. Such industries, together with the expanding sectors of non-manufacturing, are highly sensitive to "quality of life" factors in their locational decisions. The states of the region should, therefore, recognize that residential, recreational, environmental, and cultural amenities deserve an important place in an economic development strategy.

6. A Great Lakes economic strategy faces the added challenge of overcoming the legacy of problems inherited from the past that will impede economic development in the future. This legacy is most evident and complex in the region's older industrial urban areas that have been the center of much of the region's economic life, particularly in manufacturing.

The Region's Major Common Problem--Cities in Transition

7. In each of the Great Lakes states, there are urban centers confronting the special problems of economic transition in the face of changing economic conditions. Populated by a large percentage of the region's

poor and unemployed, the economic base of these centers is decentralizing while their costs continue to rise. The economic re-development of these cities that grew up around manufacturing and now must diversify is the most challenging common problem confronting the region. Revitalization of these centers will require a two-pronged attack: (a) concerted economic re-development; and (b) re-structuring of government finance and services. These are discussed in Section V.

Shared Problems for Cooperative Action

8. Lowering the costs of doing business--While most of the region does not rank high in state and local taxes, there are specific state and local tax issues that require attention because of their consequences for economic development. Workmen's Compensation Costs appear to contribute to high labor costs in several states of the region. Nationalization of this program may warrant serious consideration.
9. Labor-Management-Government Cooperation--The interviews conducted for this study brought out feelings on the part of businessmen that labor and government does not understand their problems in doing business in this region. The interviews also uncovered a strong desire on the part of government leaders, businessmen and labor officials to cooperate in addressing the common problems of the region.
10. Education--One of the major needs of the region is to assure that the people entering the labor force have the skills needed to successfully compete in the work place. While one of the major locational assets of the region is its concentration of outstanding public and private universities, the evidence is mounting that the public school system is turning out increasing numbers of students who are poorly equipped to work. Vocational schools need to be reoriented to skill needs of area businesses.

11. Capital for Business Development--Capital flows in national and international markets, but a substantial part of the nation's investable wealth is controlled by institutions in this region. If the investment climate of the region were made more competitive with opportunities elsewhere, more of this financial capital could be retained in the Great Lakes area.

12. Energy--Uncertainty over energy supply is one of the greatest factors inhibiting expansion of industry in the region. Cooperative research is required to undergird state and federal policies designed to ensure adequate and dependable supplies of energy at a reasonable cost for industrial, commercial and residential uses.

13. Transportation--United regional action is needed to bring modernization of the region's rail network and improved navigational possibilities on the Great Lakes, Mississippi, and Ohio River systems.

14. Water--Overall, water is one of the region's competitive assets which may alter locational advantages in the region's favor once again in one or two decades. Attention is needed to solve the problems of those areas where water shortages or water quality problems inhibit development.

15. Agriculture--The region has a basic interest in bringing about federal policies that provide improved certainty in production and prices for agricultural products. Steps should also be taken to protect the region's scarce agricultural lands and to ease the ability of farmers to transfer their family operations from one generation to another.

16. Federal Expenditures Policy--The region's problem with Federal expenditure policy is not that the region pays in more and receives less back than some other regions, but rather that past grant programs, contract

decisions, and facility location decisions were not made in light of this region's changing economy. The region's Members of Congress, state legislators, governors, and others in a position to influence major federal policy decisions, need better information on the region's needs and the potential impacts of Federal policy decisions in order to ensure improved targeting on the region's needs in the future.

Joint Action

The hundreds of interviews with business, labor, and civic leaders conducted for this study revealed that actions were being taken without adequate understanding of their impact on development, or that business or labor were acting in ways that were not in the region's or their own long-run best interests. Some mechanism is needed to bring these parties together to discuss their common problems. This could be done on a state-by-state basis, but most of the problems to be dealt with are common to all the states. A joint undertaking by all of the states would be much more likely to attract the high levels of interest required and to generate the cooperative attitudes needed for problem solution. This could take many forms, from a series of key leaders in a discussion forum to a six-state development commission with representatives from business, state government, local government, labor, civic, and minority leaders. Specific organizational options are discussed in Section VII.

Regional Policy Analysis

The actions of federal, state, and local governments are a major influence on the development of the region. In the view of many of those interviewed, Congressmen, governors, state legislators, and local officials often must make

or vote upon policy without adequate information about potential impact on the development of the region.

What will be the impact of increasing St. Lawrence Seaway tools on the steel industry?

How will changes in environmental standards influence employment?

What are the region's needs with respect to problems addressed by the Community Development Block Grant Program, or new economic development legislation?

Will they be adequately weighted in the formulas to be used in the legislation?

Frequently, there is no single, scientific answer to such questions, but the policy-making process could be improved by informed debate based upon careful analysis of the implications of any decision for the well-being of the region.

Fortunately, the region is rich in technical resources for undertaking such policy analysis. It has an extensive network of public and private college and university systems and research organizations. While there is no one organization with comprehensive policy analysis capabilities across all fields--from agriculture, to transportation, to urban economics--some of the top researchers in the nation are scattered throughout the region's institutions. No single state has all or even most of them. These resources need to be marshalled in the region's interest to examine present and proposed public policies and to provide an assessment of their potential impacts, not only to the policymakers themselves, but also to all parties of interest. Such a center has been established to service the Congressional delegations--the Northeast-Midwest Institute. But similar services are required by states and local policy-makers as well.

V.

TOWARD AN URBAN DEVELOPMENT STRATEGY FOR CITIES IN TRANSITION

As already pointed out in this survey, a majority of the 58 metropolitan areas in the Great Lakes states grew up economically in the decades just prior to or just following the turn of the century when the nation's heavy manufacturing base was developing rapidly. At that stage in our national development, most manufacturing employment was perforce located in cities and towns close to where workers lived. Because of their strategic location close to the nation's markets, close to the resources required for production, and athwart the country's major arteries of commerce, the cities of the Great Lakes region became the leading centers of heavy manufacturing in the United States. Many grew to rank among the major metropolises of the nation on the strength of their preeminent role as centers of such manufacturing.

Impact of Manufacturing Shifts on Great Lakes Cities

For the foreseeable future, the Great Lakes region is likely to continue to serve as the nation's leading maker of durable goods. However, two changes in the characteristics of the region's traditional manufacturing industries plus several other national shifts in the location of population and economic activity, have profound implications for the future of many of the region's urban areas and manufacturing towns:

1. The locational requirements for major new installations in the region's traditional industries no longer favor central cities nor even urban areas; and

2. Production employment in many of the region's traditional industries is likely to either decline, stabilize, or grow very slowly as capital is substituted for labor in the process of modernizing plants.

The region is attracting only a very small share of those sectors of manufacturing that are rapidly expanding employment, i.e., the so-called innovative, new technology industries.

Since most of the cities of the Great Lakes region contain large concentrations of Americans for whom production jobs are the most desirable employment alternative and these jobs are expanding at a slow rate nationally as well as regionally, the human consequences of these shifts are already obvious.

These same shifts also threaten the fiscal health of many municipalities that have historically relied upon manufacturing as a mainstay in their economic base. They are reinforced by the suburbanization (and ex-urbanization) of middle and upper income groups and the de-centralization of retailing and other white collar jobs out of the central cities--a national trend well over five decades old that affects all urban areas in the country above a certain size whether specialized in manufacturing or not. Most of the region's older cities lost their ability decades ago to "capture" the benefits of such growth through annexation because they have long since been surrounded by separately incorporated municipalities.

Short and Long Term Challenges

The challenge in the immediate term is to enable these older cities to meet the needs of their citizens and re-develop even in the face of a deteriorating tax base and escalating costs of services.

The long-term challenge is to bring about a re-structing of the urban economy so that it can support a population with rising incomes and an improving quality of life.

To bring about such a transition effectively with as little human travail as possible is a major challenge to the creativity of the region's public and private leadership. It requires that the prospective employment base that can underpin each of these urban economies in the future be defined. While these new urban economies will necessarily rely much less heavily upon manufacturing as a source of employment, it seems quite likely that they will be insufficient to:

1. Support the magnitude of population that some of these metropolitan areas know now or knew in the past; and

2. Absorb the many young, poorly trained unemployed currently residing in the central cities.

Elements of an Urban Strategy

Thus, a Great Lakes urban strategy will have to consist of a number of carefully coordinated elements, some of significance in the near-term, others addressed to long-term economic development objectives. Because each will require intensive cooperation between the public and private sectors and will depend upon effective integration of efforts between local, state, and federal governments, cities and metropolitan areas will have to organize both public and private leadership for effective, coordinated action.

Urban strategies will have to include:

1. Physical and economic redevelopment components designed to create a physical environment conducive to new firm formation in the city and to provide the incentives, space (and land), services, and quality of operating environment required to attract and retain potential residential, non-manufacturing, and specialized high-employment growth manufacturing re-uses appropriate to central city locations in the future.

2. A labor market component designed not only to train or re-train the employed or under-employed for available jobs in the metropolitan area (together with transportation to those jobs), but to provide affirmative assistance also to those choosing to move to jobs located elsewhere outside the local labor market.

3. Social and neighborhood components aimed at correcting the social disincentives and impediments to economic revitalization, i.e., declining schools, high crime rates, and chronic welfare problems while improving neighborhood housing and living conditions; enabling workers to live anywhere of their own choosing in the metropolitan area; and diversifying the mix of income groups residing in the city itself. The central areas must become competitive with suburbs by offering a unique residential environment. No city can long survive solely as a reservation for the poor. A diversified residential base is essential to both the restoration of a stable tax base and the re-development of the economic base in the central areas.

4. A fiscal component designed to assist these cities in transition to meet the needs of their inhabitants in the face of tax base deterioration while they shift toward a more viable economic base. While intergovernmental fiscal transfers from federal and state governments offer the only immediate device for accomplishing this aid, long-term solutions will depend upon a fifth element:

5. Governmental re-structuring. The structure, functions, and financing of local governments in these older urban areas no longer match the social and economic realities that exist. States will confront the urgent necessity for local government streamlining and reform in these areas in the decade ahead. It is likely that the growing economic problems of these areas will compel such reforms despite longstanding political opposition, for the suburban areas must come to recognize their common interest with the city in economic revitalization.

Regional Cooperation in Influencing Federal Policy

Obviously, the state, county, and municipal governments of the region are unlikely to succeed in carrying out such urban re-development unless Federal policies and programs are designed and carried out to support them.

To the extent that the Federal government is unsuccessful in restoring economic growth rates to levels high enough to generate employment opportunities for a rapidly growing labor force, the older cities of the region will continue as centers of high unemployment while their fiscal capacity to meet the needs of their population declines.

To the extent that many Federal policies are "tilted" against the modernization, renovation, rehabilitation and re-use of existing urban facilities, the state and urban governments of the region will be unable to contravene their effects. To the extent that Federal programs are addressed principally to short-term, ameliorative, counter-cyclical objectives rather than the long-term resolution of structural employment and economic development problems, state and urban governments in the region will lack the resources they need to mount successful urban redevelopment.

Organizing for Urban Action

In organizing for action, therefore, there appear to be four prerequisites for successfully handling the economic transition of these urban areas:

1. The states and their urban governments should cooperate regionally in pressing for supportive federal policies and programs. This can be accomplished most effectively through cooperation with the region's coalitions in Congress.

2. Suburbs and cities in the region must come to recognize their common stakes in economic revitalization and unite in common efforts to cope with the employment and fiscal implications of these structural changes taking place in the region's urban economies;

3. Public efforts in each urban area must be intimately linked with private planning and commitments in a focused effort to bring about a revitalized economic base; and

4. Coherent, closely coordinated and sensitive action must be provided by the state and federal governments to enable each urban area to deal with its own special problems and potential in its own way.

Regional Urban Needs and the Federal Government

The Great Lakes states should urge the Federal government to:

- Establish a mechanism by means of which federal actions in the region can be coordinated and integrated with efforts to re-build urban economies;
- Establish a means to continually evaluate and monitor the impact of federal programs and policies on the region and its urban areas;
- Alter program criteria to permit full use of federal assistance to modernize or renovate facilities rather than to favor new construction;
- Provide assistance programs more clearly targeted on the needs of older urban areas.

Municipal Government and Economic Development

Until recently, few municipalities assumed that economic development was a significant or necessary concern of city government. Under the pressure of events,

that circumstance is changing rapidly and some cities and metropolitan areas are developing highly sophisticated tools and mechanisms to promote their economic re-development, nearly always involving joint public and private planning.

Every metropolitan area and industrial city in the Great Lakes region should establish, as a permanent agency of local or regional government, an economic development agency and the states of the region should undertake to provide a full grant of authority and tools to these agencies through state legislation. Ideally, such agencies should be metropolitan-wide in order to incorporate the entire local labor market.

Such area-wide development agencies should be enabled to develop economic strategies for their areas based upon identified new potentials for re-development; stabilization and retention of the existing economic base; elimination of major impediments to re-development; and correction of labor market deficiencies.

The agencies should be able to serve as vehicles for joint public-private planning, land acquisition, development, and the co-venturing or joint venturing of projects.

The agencies should be equipped with:

- The ability to simplify local decision-making on economic development projects;
- The ability to hold or assemble land;
- The ability to provide long-term, low-cost mortgage financing;
- The ability to engage in risk-sharing through co-venturing;
- The ability to provide fiscal financial incentives such as tax abatement in exchange for desirable development;
- The ability to obtain cooperative services and capital improvements in conjunction with development projects;
- The ability to coordinate economic development with housing improvement.

State Actions

Nearly all these powers require state enabling legislation. Such legislation should be accompanied at the state level by:

- A state development agency or cabinet capable of bringing the full resources of state government to bear on major local projects;
- A one-stop point of contact for local government and private investors and developers on economic development matters;
- A balanced business tax structure that encourages business retention and modernization as much as it favors the attraction of new firms;
- A set of state banking and financial regulations that favors rather than deters access to investment capital;
- A set of state incentives, guarantees, subsidies, and low-interest loans that reinforces and complements the powers provided to the local agencies.

Physical and Economic Development Component

While population and employment decline in the core urban areas is certainly perceived as a problem, the physical and economic development component of an urban strategy must be designed so as to take advantage of population loss as an opportunity to re-structure the city physically and economically.

Neighborhoods and enterprises that are still viable and not yet in conditions of advanced abandonment or decline must be protected, reinforced, and assisted. But areas and facilities already abandoned should be prepared for conversion to totally new uses appropriate to the future economic and social role they might play in a post-industrial economy. Because so many manufacturing cities in the Great Lakes region grew very rapidly during their early development, a much smaller percentage of the housing stock now being abandoned is attractive to rehabilitation or renovation. The only viable alternative appears to be replacement of these abandoned properties slowly drifting into public ownership with totally new uses--commercial, residential, industrial, recreational or cultural.

Land Assembly and Land Banking

The interviews conducted in the major cities of the region found a pervasive concern over the growing amount of either abandoned property or property not currently being used for any residential, commercial, or industrial purposes. Present prices for such land remain high. Usually it is in scattered plots, with insufficient acreage in any one place for large-scale commercial, industrial, or residential development.

Several steps appear to be in order to accelerate the re-cyclying of land in the cities to new uses:

1. The states and municipalities should adopt legislation expediting the process by means of which tax-delinquent properties pass into public ownership. The process is needlessly protracted in most states at the present time.

2. The states should adopt legislation permitting land banking, including the use of eminent domain, in areas candidate for conversion to new uses.

3. The states of the region might urge enactment of special federal guarantees and loans for the purposes of assembling and holding land for development in central urban areas. This could include recommendations for strengthening the "new town-in town" provisions contained in existing federal urban development legislation.

4. A comprehensive study of state land use laws and incentives for facilitating land assembly should be carried out. The study should include two major elements:

(a) Incentives encouraging private land assembly such as tax incentives, zoning techniques and principles, direct loan programs, special procedures to quit titles, and safeguards against the abuse of incentives. An examination of experiences under Ohio's Chapter 1728 would be particularly instructive.

(b) Public land banking. Here, the study should concern itself with the definition of "public purpose" financing mechanisms, less-than-fee acquisitions, the use of tax delinquency proceedings, and operating principles and safeguards. Major problems lie in the administration of a land banking program. Techniques of acquisition usually involve a number of agencies in both the city and county--the tax collector, the sheriff, the county attorney, the zoning administrator, and the renewal agency. All of these must be coordinated, perhaps through a special land banking agency or a development corporation with broader responsibilities.

Development and Re-development

Appropriate new uses for specific sites will, of course, vary from city to city. In some instances, new uses for the immediate future may not be ascertainable. In such cases, assembled sites might be held in interim uses such as parks. Every care should be exercised to avoid maintaining assembled tracts as empty space with no public use. This will only drive conditions down further in surrounding areas.

A wide range of tools can be made available under state legislation to assist in the development of new industrial, commercial, and residential development.

Efforts should be concentrated upon attracting newly developing sectors of manufacturing based on newer technologies that still have expanding employment requirements. Such firms are of a size for which urban locations can still be competitive and their employment needs are expanding rather than contracting.

Where practicable, commercial projects should be emphasized that "export" services out of the city. This has the advantage of reinforcing the economic base of the city and will yield higher multipliers in "spin-off" employment than local-serving commercial projects.

The success of development and re-development will depend upon the up-grading of the city from simply serving as a workplace into a more diversified environment for residential use as well as work.

Residential projects that help diversify the mix of income groups and strengthen the tax base also deserve high priority. There are nascent trends among childless households to move closer to the central administrative districts. While it will be necessary to guard against displacements of low-income residents as such trends accelerate, this development should be capitalized upon.

A fourth land conversion and re-use priority, therefore, is the development of recreational, cultural, and aesthetic amenities that resurrect a city's ability to compete as a place in which to live. This possibility is treated more extensively later.

Obviously, the physical and economic re-structuring of these older urban areas will require major improvements in capital facilities and municipal services. Clearly, deterioration in the tax base prevents the use of large amounts of local public funds for these purposes, but with changes in federal funding formulae, many of the Great Lakes cities will be receiving large amounts of counter-cyclical and urban development funds. These should be used to upgrade the facilities and services most likely to be key to economic revitalization. Present evidence indicates that few cities are effectively using these funds for that purpose. Yet long-term solutions to the problems of transition depend upon doing so. Cooperative public-private planning in each urban area to make maximum effective use of this assistance is vital.

Effective use of revenue bonds, mortgage guarantees and mortgage insurance, direct loans, and tax incentives will be essential in enabling private firms to locate in these central areas. Already, there is ample evidence that older, abandoned structures can be converted effectively to new uses. Several states already provide incentives to promote modernization of industrial and commercial facilities. These should be supplemented with similar incentives to facilitate conversion and rehabilitation.

A LABOR MARKET COMPONENT

The Urban Job Mismatch

The principal challenge confronting the region in devising a labor market strategy for its industrial urban areas is the growing mismatch between the location of regional employment growth and the location of the urban unemployed and those displaced by manufacturing shut downs or modernization.

Although the central cities and older suburbs serve as home to most of the poor and unemployed in the region, most of the new manufacturing jobs are locating on the periphery of the region's metropolitan areas or in rural counties outside of any effective commuting range for central city populations. A new automobile plant recently announced for the Cincinnati area, for instance, is 25 miles from the city; another, soon to be constructed in central Ohio, is in a small non-metropolitan community nearly 30 miles from central Columbus.

Meanwhile, steel production facilities in central Youngstown and rubber products production in central Akron are being phased down. These losses in the central areas are reinforced by the long-standing and continuing suburbanization of retail and office employment all too often aggravated by the decentralization of educational, cultural, recreational, and government facilities as well--i.e., location of convention facilities, stadiums, government offices, museums, etc. in outlying areas. Such jobs as still do remain in the central areas are by no means held by central city residents. Nearly 73 percent of those who worked in the City of Cleveland in 1970 were not residents of the city, but commuters; for Detroit 54.4 percent; for Chicago 43.1 percent.

The result is inevitable--isolation of many of the region's central city unemployed from whatever new employment opportunities are developing in the region.

For reasons set forth earlier in the analysis, it appears unlikely that large-scale traditional manufacturing will locate in these central areas. They are uncompetititve in terms of space and other costs with other sites in less congested locations. While it is possible to redevelop the central cities for new economic uses, these new uses may, in many cases, not match up with the employment needs of the central city unemployed or underemployed.

While there is some possibility of "bringing jobs to people" in the central cities, it appears unrealistic to expect that jobs can be attracted in the numbers necessary to meet all the employment needs of those currently residing there.

It should be no surprise, therefore, that a movement counter to the rural-to-urban population inflow we have known in past decades is now setting in and that, in every section of the United States, there is an outflow from the city to the suburbs and into non-metropolitan counties beyond as the location of job opportunity has shifted under the impact of modern transportation and communications.

However, it may prove more difficult for the poor and those displaced by changes in manufacturing to move from cities to smaller communities, suburbs, and rural areas in the coming years than it was for those who were unemployed or displaced by changes in agriculture and mining in the past to move to the cities in search of opportunity. The cities absorbed this inflow through the "trickle down" of housing from middle and upper income households to lower income households. In smaller communities where housing facilities and services are more scarce and in-migrants more visible, such a process does not occur and in-movement is resisted through racial discrimination.

Even if movement of unemployed minorities out of the city did not face such impediments, the nation's economic growth rate is insufficient to provide jobs for a labor force rapidly expanding under the influx of the so-called "war babies"

generation and increased participation by women in the workplace. Nor is it a solution to the problems of the socially-alienated, hard core unemployed youth who have taken themselves out of the regular labor market and fallen back on welfare and crime to sustain themselves.

Labor Market Strategy

Federal Employment Policy--

1. The success of any labor market strategy for the industrial urban areas of the Great Lakes will depend first and foremost then upon restoration of a national economic growth rate high enough to enable workers to exercise freedom of choice in searching for and moving to jobs.

Opening up the Suburbs--

2. Suburbs and cities will be forced, of economic necessity, to cooperate in opening up suburban housing and jobs to those central city residents seeking work in the metropolitan area. Open housing and metropolitan-wide allocation plans for low and moderate income housing appear to be imperative.

Urban Transportation--

3. Urban transit systems, with substantial federal operating subsidy, must be re-orientated from servicing solely the suburb-to-city commuter (who is using the system at declining rates) to the reverse city-to-suburb or cross-metropolitan commuter (whose employment prospects depend upon public transit out of rather than into the city). Servicing widely dispersed suburban employment locations will require use of new, smaller scale transit units on flexible routes -- modified taxi systems.

Vocational and Technical Training--

4. Affirmative training and placement programs for the unemployed must be matched up with whatever newly developing job opportunities may exist within the urban labor market. This can only be done through close coordination and planning with employers. Vocational and technical training schools should be operated as a key component of an affirmative labor market strategy. In many

states in the region, vocational and technical education systems are operated purely as educational systems with little direct sensitivity or relevance to labor market requirements. The approaches used in such southern states as South Carolina should be closely studied and considered for adoption in the Great Lakes region.

Federal Comprehensive Education and Training Act funds (together with other manpower and youth employment funds) should be combined into a carefully targeted program for dealing with structural unemployment in the central cities. The states should urge amendments to the regulations and legislation behind these programs that will modify them from counter-cyclical programs providing temporary employment into programs operated in cooperation with private employers to meet long-term employment needs.

Mobility Assistance--

5. The Great Lakes states should seriously consider urging the federal government to provide moving costs to trainees wishing to relocate to jobs outside of their local labor market. Such relocation is in the long-range best interests of both the worker and the jurisdiction. Such payments are regularly made to workers by other advanced industrial nations. To date, the United States has not done so except on a demonstration or experimental basis.

Public Service Jobs and Rebuilding the Cities--

6. In the short-term, it will prove essential to put unemployed urban youth to work on public service jobs. These jobs should be directly related to improving central city capabilities to support economic redevelopment, i.e., improvements to streets, utilities, parks, living environment, neighborhood attractiveness. Such work should be affirmatively combined with out-of-school efforts to eliminate functional illiteracy among out-of-work youth and to equip them with both a work ethic and fundamental working skills.

Subsidizing Private Employment--

7. For out-of-work youth capable of going on to private employment, there are ample uncommitted federal youth employment funds to support cooperative employment programs with private employers. Under these programs, private employers can receive a subsidy to hire such workers at or above the minimum wage with the objective of moving them eventually into mainstream employment.

The Displaced, Mature Worker--

8. The displaced, skilled, mature manufacturing worker has far different needs, however. Such workers, with substantial equity in their homes and out of work solely because of plant modernization, relocation, or shut down, are able and willing to work, but unable to find work appropriate to their skills locally. To meet these problems, the Great Lakes states should seriously consider establishment of regional employment information and forecasting services operated in cooperation with the Employment Services. At the time displacements occur, such a regional job information bank could work closely with these mature workers in identifying job prospects nearby or elsewhere that are reasonably appropriate to their skills. Retraining and mobility assistance will also prove necessary in many cases. Such a program could be operated in cooperation with the labor movement.

SOCIAL AND NEIGHBORHOOD COMPONENT

Certainly two of the major social impediments to re-development of the central city economic base is the wide-spread perception, not always accurate, that street crime is rampant and schools are bad.

Clearly both problems are directly related to the social and economic deterioration of the central cities over the last several decades.

Street Crime

Street crime in the cities is in part the result of joblessness, in part related to the breakdown of family life among welfare families, in part related to the disproportionately high number of youth in the war babies generation, and in part the result of urban social breakdown and alienation, and in part the result of the disappearance of vital economic and social activity from city streets. As many urban critics have pointed out, structures and social patterns that create unwatched, vacant streets are an open invitation to crime.

More police cars and radios -- even more stringent punitive measures in the criminal justice system -- do not resolve these underlying urban problems that are the cause of crime and social alienation. Certainly, restoration of the "cop on the beat" can help create a more closely watched street and a law enforcement bureau more sensitive to neighborhood problems, but municipal budgets are not likely to be sufficient to permit this approach itself to present a total solution.

The long-term answer to crime in the city is to restore the sense of community and social and economic vitality in urban neighborhoods.

Coupled with long-term economic re-development, therefore, it would appear to be wise to support neighborhood-based programs to combat street crime and forestall violence in the schools. In all but those neighborhoods in the most advanced state of abandonment, there are parents and other adults determined to improve the public safety. In no sense an "underclass", they proudly aspire to improve life for their children and grandchildren.

Neighborhood street crime is not high in many older city neighborhoods, particularly ethnic areas and areas with a high level of civic pride. The key to controlling street crime and vandalism is neighborhood pride and the social pressure of peers.

In many cities, experiments have already begun with "citizen watch" and "citizen patrol" programs on neighborhood streets. Similar approaches, using the talents of concerned parents in the neighborhood, can be mounted in school yards and hallways.

Urban Schools

In parallel with such efforts to reduce the levels of crime and violence, the states, in concert with the federal government, should undertake a major effort to upgrade the quality of urban schools. It is too much to expect the presently beleaguered teachers and administrators in these schools to be able to reverse conditions that reflect urban social deterioration in general.

While there can be no single set of prescriptions applicable to all city school situations, it is clear that the "ghettoization" of schools simply reinforces the social alienation and decline of the city environment in general. Many gifted central city youngsters can be assisted through establishment of magnet schools tailored to their own interests and more accelerated pace while regular schools must more accurately reflect the social mix and makeup of American society in general.

While funds alone will not necessarily lead to enrichment and improvements, they are a necessary precondition for improvement. States in the region must ensure that urban school systems are not allowed to degenerate because of excessive reliance on declining revenues from local property taxes. State-wide equity in the financing of school systems is imperative. In many cases, simple equity will not guarantee the extra resources needed to reverse conditions in the urban schools. Augmentation with special state and federal assistance will undoubtedly prove essential.

For many urban youth, staying in school will depend upon a clear demonstration that there is a connection between their education and getting a job.

Vocational education must be much more directly tied to labor market demand in local and national job markets. More direct involvement of employers in curriculum design and technical training appears clearly indicated.

In the early 1980's, it is quite probable that the region will begin to detect declining rates of street crime, school violence, and pressures on the schools as the war baby generation moves into the adult labor force, there are fewer teen-agers in the population, and school enrollments drop.

Neighborhood Re-Structuring

If the young unemployed can be made more mobile through training, open housing opportunities in the suburbs, and employment opportunities nation-wide, it is quite probable that an economic and social re-structuring of the central areas can occur. Indeed, some signs of such re-structuring are already underway in some older city neighborhoods.

In many of the nation's older cities where in-migration of rural poor has ceased, the number of middle and upper income neighborhoods close to the central business district has begun to increase.

A combination of high prices for new housing in the suburbs, frustrations over commuting, and changing social customs and tastes has led to a substantial number of renovation and rehabilitation efforts in older city neighborhoods, particularly in those offering a unique environment.

Most such renovations are undertaken by young singles, childless households, and so-called "empty nesters". Properly nurtured, these trends can lead to a more diversified residential tax base in the central cities and the more attractive living environment they engender can in turn lead to regeneration of the economic base.

It is essential, however, that such efforts to diversify the city's residential mix not lead to the inhumane displacements of low income families and individuals characteristic of urban renewal in the 1950's and 1960's. A proper combination of state and federal housing allowances for low income persons in such areas can help obviate that possibility.

The Neighborhood Housing Services Program of the Federal Home Loan Bank Board, working in cooperation with cities and private lenders in the Great Lakes region, is already demonstrating the utility of this sort of balanced approach to urban neighborhood renewal.

Such a residential strategy when combined with an economic development strategy provides the basis for a long-term approach to the re-structuring of urban economies in the Great Lakes region.

In the meantime, short-term approaches to provide youth employment, improve schools, and reduce dangers to the public safety are essential to enable these long-term processes to get underway.

Two other components are necessary in an urban redevelopment strategy, however, to enable the foregoing to occur:

There must be a state and federal component to assist these cities make their economic transition over the near term; and

There must be some fundamental re-structuring of local government in urban areas if they are to be viable economic and social entities over the long term.

NEAR-TERM FISCAL STRATEGY

Because of the accelerated fiscal decline in many of the nation's older cities, it has been necessary for the national government to dramatically increase the flow of federal funds to these jurisdictions. Such cities as Detroit, Cleveland, and other Great Lakes cities will receive federal aid in 1978 that equals more than 60 percent of the revenues they generate through local taxes.

It has been necessary for the states to assume responsibility for many functions these cities formerly performed on behalf of their metropolitan areas in order to ease their fiscal crisis. Despite this assistance many of these cities have been compelled to cut back expenditures and payrolls in order to balance their budgets and remain in good standing on the municipal bond markets.

A series of measures reducing municipal expenditures out of local revenues, combined with increased federal and state financial assistance, appears essential over the near term (through 1983-5).

However, these cities, like all municipalities, are constitutionally creatures of the states, but they are in danger of becoming wards of the federal government. Such a development would contravene many of the most fundamental principles underlying our federal governmental system.

It is clear that long-term resolution of the problem rests with the states: they face the urgent necessity during the coming decade, even while providing special financial assistance during the transition, of reforming local government in urban areas, streamlining its responsibilities, re-assigning functions among jurisdictions, and re-allocating methods of financing urban services.

LONG-TERM REORGANIZATION OF LOCAL URBAN GOVERNMENTS

The re-structuring of local governments in urban areas will be the most controversial and politically difficult task facing the Great Lakes region over the coming decade. Yet it will prove essential in dealing with the new economic and social realities of the region. Some of the Great Lakes states and localities have led the way in adopting governmental innovations to accommodate these new realities already: Indianapolis Uni-Gov and the Twin Cities Metropolitan Council in the Minneapolis-St. Paul area. State approaches to these problems can fall under three general headings:

- metropolitan reorganization,
- state and local tax reform,
- local government modernization and reallocation of functions.

Metropolitan Reorganization

Despite the fact that local governments are creatures of the state, state governments have avoided, as much as possible, the task of readjusting local government boundaries to the scope of changing service and development needs. If reform were merely a matter of achieving greater efficiency, the continued fragmentation of local government would not be so serious but it is now clear that the "balkanization" of government contributes to economic and social conflict and decline. George Peterson writes in The Urban Predicament, "Adherence to out-of-date central city boundaries has done more than capriciously allocate urban resources between the central city and the rest of the metropolitan area in response to the decentralization of private markets. Once in place, the boundaries provide a further incentive to out-migration from the central cities."

Recognizing the extreme political difficulty of far-reaching reforms, the states may make an important beginning through developing a policy of strong sub-state districts in metropolitan areas. If state and federal programs are

required to conform to sub-state district boundaries, it would be possible, for the first time, to coordinate economic development and community development policies within metropolitan regions to carry out the sorts of strategies outlined earlier.

Because of the large numbers of metropolitan areas of different sizes in the Great Lakes area, states might enact permissive legislation for at least three types of metropolitan reorganization.

First, city-county consolidation would be especially appropriate for metropolitan areas covering a single county, of which there are 18 in the six-state region.

Secondly, multi-purpose regional service corporations would be very useful in both large and small metropolitan areas. They could operate such key services as water, sewer, transportation, etc., on a regional basis.

Thirdly, states might authorize the conversion of metropolitan councils of government into general purpose governments.

By encompassing the patterns of growth and common labor market within a common governmental framework, the fiscal, administrative, and service delivery problems so characteristic of the region's urban areas at present can be obviated.

State and Local Tax Reform

State law determines who pays for what services by its actions in (1) fixing local boundaries, (2) regulating the sources and amounts of local taxation, and (3) distributing state grants-in-aid. A number of devices are available to help central cities.

Commuter Taxes: statutes allowing cities to tax the wages of suburban residents working in the city are already widely used.

Tax Base Sharing: the seven-county Minneapolis-St. Paul area has an innovative tax base sharing plan under which 40 percent of all new commercial and industrial property evaluations go into a metropolitan-wide pool for redistribution to all local government units on the basis of need.

State Redistribution: all six states in the region have state-collected taxes which are returned to local governments. Unfortunately, little of this aid is distributed so as to equalize revenues between richer and poorer jurisdictions. Nationwide, as well as in the Great Lakes states, the equalization objective is restricted almost exclusively to education grants-in-aid. It is estimated that for the country as a whole, only $15.1 billion of the total state aid to local governments in 1972 was apportioned according to measures that show some equalizing intent, however modest. Of that amount, $13.1 billion went to public education. Now that the principle of power equalizing is generally accepted in school finance, it would be most appropriate to extend that principle to state revenue-sharing programs in general.

Property Tax: the adverse impacts of the property tax system are another problem needing attention. In both the central cities and the suburbs the property tax is nearing its practical political limits. Taxpayer revolts are in evidence in some parts of the region. Optional levies placed on the ballots are failing with increasing regularity. The time has come to consider a substantial reform in the property tax as a way of financing local services.

Site Value Taxation: there is widespread agreement among economists that site value taxation (taxing land but not improvements on it) produces few of the bad effects of the general property tax. Because land is totally immobile, a tax placed on it cannot be avoided by movement to the suburbs. Furthermore, land taxes do not discourage investments on land improvements--e.g., buildings and equipment--as does the general property tax. Despite these advantages, few states have permitted cities to use this revenue option. Perhaps this reluctance is owing to a belief that such a tax is too difficult to administer. However, the practicality of land taxes has been amply demonstrated. Windfalls would not be created if site value taxes were imposed as an <u>additional</u> revenue source. Instead of raising the general property tax rate to produce a desired increment in revenues, the tax rate on the land portion alone could be increased. Thus, it appears that site value

taxation to finance increases in city expenditures could be an attractive policy option open to state governments.

While it would not eliminate existing disparities in metropolitan general property tax rates, such action could go a long way to ensure that such disparities do not increase in the future.

State Grants: Although grants to cities in support of urban services have grown considerably in recent years, they still account for less than 5 percent of total state aid to local governments. Furthermore, a number of state grants discriminate against central cities and work in favor of suburbs. The Advisory Commission on Intergovernmental Relations found that the state aid and state-administered federal aid favored the central city in only 31 of 68 metropolitan areas for which the comparison between central city and suburban areas was possible.

Reform of Local Government

Most local governments in the United States are very small. More than half have fewer than 2,500 residents. In addition, many local governments, especially counties, have no centralized executive or legislative authority. State action is critically needed to deal with these problems of size and public service capacity. States should begin the extensive job of restructuring local government to make it more adaptable to both local and area-wide needs. A first step is to establish specific standards for the viability of all types of local governments. Standards should be set for judging viability on the basis of the capacity to raise revenues adequately and equitably, population and geographic size, and tax base. Other standards should be set relating to incorporation and annexation, an area in which a number of states have already made significant changes.

Boundary Commissions: An appropriate vehicle for administering these standards and monitoring the creation of new government units is the local government boundary commission device. Such commissions already exist on a state-wide basis in Minnesota and Michigan. They exist for specific counties or groups of counties in California, Oregon, and Washington. The boundary commissions, in addition to approving incorporations, the

annexations, and the creation of special districts, should apply the standards of viability on a case-by-case basis to all general purpose local governments.

A function of the boundary commission that has a direct relationship to economic development has emerged in California and Oregon. This is the requirement that commisssions develop municipal "spheres of influence," which are the ultimate boundaries for the provision of major urban services, including utility systems. The "sphere of influence" then becomes the area subject to future annexation by the central city. This procedure gives further strength to the ability of local governments to plan utility services that are important for economic development.

Finally, internal structural reforms are needed to ease the difficulties businesses face in dealing with local governments. These include revising regulations that inhibit expansion, such as zoning and permits, providing information to firms and individuals about city processes and streamlining those processes. Or, even a simple office to assist firms in meeting all city requirements would be a great help. One of the reasons the Southern and Western cities appear attractive to firms is that they do not have overwhelming accumulations of administrative requirements. If they have the rules on the books, they manage to tailor them to fit the needs of new industries. The larger the city, the more difficult this is to do, but it is essential, particularly for the older, highly bureaucratized cities.

VI.

SHARED PROBLEMS FOR COOPERATIVE ACTION

The following chapters review the major problems and concerns flowing out of the interview and research programs. In each case, courses of action that could be initiated and promoted by the committee are suggested. Some of these lend themselves to joint action. Others will require individual state-by-state action to deal with either state statutes or administrative policy. However, while prescribed actions will have to be taken by the individual states, parallel action by all or most of the Great Lakes states would strengthen their resolution.

The specific chapters are the following:

- Lowering the cost of doing business in the region.
- Labor-Management-Government cooperation to improve the business and industrial development climate.
- Improving the quality of education and building upon the strengths of the region's college and university system.
- Making more risk capital available for the development of new enterprise in the region and the expansion of existing enterprise.
- Dealing with uncertainty of energy supply and price in the region.
- Saving the region's rail network and building upon its water transportation assets.
- Solving isolated water supply and quality problems and developing the region's natural advantage in water supply.
- Protecting the position of agriculture in the region and promoting the retention of family farming operations.
- Reexamining the focus of federal funding to assure that it more adequately meets the growing needs of this region's communities and people.

A. LOWERING THE COST OF DOING BUSINESS

One of the Great Lakes region's competitive problems, as was discussed in Section III, is the higher cost of doing business in some areas of the region. The difficulty facing state governments in trying to neutralize some of the comparative disadvantages the region has is that, in our free enterprise system, most of these costs lie outside the control of government. Wages for example cannot be lowered by state statute and, even if they could, such a reduction would run counter to the region's ability to retain its highly skilled labor force which requires a good wage structure.

However, there are several significant kinds of costs that are controllable to a degree by state government and these should be examined.

State Tax Policy

Most studies indicate that both state and local taxes are not a major factor in the overall costs of doing business, and the Great Lakes states are slightly below the national average in taxes as a percent of personal income.

Nonetheless, taxes deserve attention as an urban economic development tool for two reasons. First, some kinds of taxes can be especially hard on some businesses and discourage their location in states having them. Examples cited by businessmen in the interview program were inventory taxes and franchise taxes on insurance.

Second, taxes are one of the few factors of production cost that states can do anything about. Therefore, the states should, if they have not already done so, examine each of their taxes and conduct an impact analysis of the effect that alteration of these taxes might have on location of business in central

cities. This must be done with care and with the recognition that the projections of costs and benefits will always be debatable. Several studies have indicated that communities lose more from tax relief than they gain from increased business activity.

Workmen's Compensation

In several states, Workmen's Compensation (rates, administration, and litigation) is a major cost issue. Many characterized this situation as a constant source of friction. Payments of awards to retirees is an especially onerous issue. A number of government officials suggested that the administration of programs needs serious attention, and one official said that his state ought to spend some time with another state which operates the same program well.

On the other hand, some businessmen and legislators called Workmen's Compensation a false issue. They said the real issues are insurance companies, which need serious regulation, and the legal profession, which prospers from litigation claims. Government officials and businessmen expressed the view that something has to be done because the rhetoric that surrounds the Workmen's Compensation issue is driving industry out of their states. This same opinion is expressed by some top labor officials, who commented that they are ready to talk about tightening the legislation. Similar agreement was expressed about the need to examine the federalization of rates and regulations so that the Great Lakes states will not suffer adversely: "The nation should play under the same rules." A consistent problem with this issue is the critical need for facts. Comparable figures are not available and this heightens the problem of rhetoric driving the issue rather than sober discussion.

Unemployment Insurance

This issue was not mentioned frequently. However, the widespread impression is that unemployment insurance costs are higher here than in the South.

RECOMMENDATIONS

1. State Tax Laws

State tax statutes should be examined to determine whether any particular taxes (such as inventory or insurance premium taxes) discourage the location of some kinds of businesses. Tax incentives for plant modernization should be considered. However, broad-based exemptions from local taxes should be approached with great caution as they may hamper local government's ability to function effectively.

2. Workmen's Compensation and Unemployment Compensation Laws

Each of the states should conduct a detailed study of their Workmen's Compensation and Unemployment Compensation laws to determine the advantages and disadvantages of nationalization of both of these programs for the Great Lakes region.

B. LABOR-MANAGEMENT-GOVERNMENT COOPERATION

Another field where state and local government can play a positive leadership role in enhancing area development prospects is in bringing together labor, management and government in a new forum for discussing their common interests in maintaining and expanding local industry.

The problem here goes beyond the usual notion of the adversarial relationship that exists between labor and management in the collective bargaining arena. The interview program brought out a strong feeling on the part of business men that government and labor did not understand their situation. Similar feelings were expressed by government and labor officials.

The notion among businessmen was that government, aside from economic development agencies, is hostile to business. In describing how he saw the region's economic problems, an officer of a large corporation said, "I'll tell you in one word - government."

Many of the businessmen with whom we talked who had experience in both the Midwest and the South said that the major distinction they saw between the economic development activities of the South and the Midwest was one of attitude. In the South, special effort seems to be given to be positive and receptive toward business in all branches of government.

A businessman recognized that red tape is a national problem, but said that the issue can be ameliorated when states and local governments have an attitude of cooperation with business, as they do in the South."

"Red tape has a lot to do with the movement of industrial plants," said a specialist in helping firms relocate. "We know a firm that finally cancelled a proposed plan after two years and sixty approvals. The major problem is not knowing." This theme came up again and again: the uncertainty of doing business with the government.

A utility executive said that the most disturbing trend is toward more and more delay in government. "Energy companies must wade through a growing number of permits and hearings. What took only seven permits a few years ago requires 21 different permits today. Business is concerned that government is indifferent toward ameliorating the problem."

"To sum it up," said a chamber of commerce officer, "the state and local government need a more caring image and the establishment of economic development expertise at the local level. Only through these two approaches will we be able to compete with the South, where development strategies are of equal concern to the man in the street and community leaders."

"It's not tax breaks or labor costs that make the South so attractive," observed an executive of a thriving manufacturing company. "When we were evaluating alternative locations a few years ago, the difference we saw between the South and the Midwest was the way Southern public officials made specific, definite commitments about things like alternative sites, land costs, highway improvements, and vocational education programs. It's not that Northern public officials are hostile; they're just vague, tentative and uncertain."

On the positive side, these negative views were balanced by expressions of willingness on the part of business, government and labor leaders to get together and talk about the region's or their area's problems and what they could do about them jointly.

One mechanism that has been used successfully in Jamestown, New York, Evansville, Indiana and other cities is a committee of labor, management, and government leaders. Some committees have been organized at the community level with public officials serving as the catalyst. Other committees are at the local plant level. On a larger scale, some major industries in the Great Lakes states have reported considerable, and even dramatic, success in a broad range of industry-wide labor-management committees. Improvement of productivity is an

underlying objective of the strictly labor-management groups, but other issues relating to the quality of work life and skills training are frequently involved. However, the kind of program suggested here would allow the discussion of problems with government, as well as productivity and labor issues.

A consistent suggestion heard from those interviewed was that the most important item of both local and state efforts to encourage labor, management, and government cooperation should be agreement on economic facts of life and the particular economic situation of states or local areas. Many felt that this kind of discussion was long overdue and that the establishment of a neutral environment in which discussion could take place would go a long way toward softening the terms on which most exchanges now take place.

RECOMMENDATION

New Forums for Labor-Management-Government Discussions

The current adversarial relationship between management and labor, and business and government, must be changed. Mechanisms to do this include state and local level labor-management committees or councils, with government bringing the parties together.

C. EDUCATION

One of the most significant economic development tools available to state and local governments is public education. This includes not only primary and secondary schools but also the network of technical colleges and public colleges and universities (the special problems of urban school systems also were discussed in the previous section on Urban Strategy).

The university system generally was seen as one of the region's greatest assets by the businessmen interviewed. However, public primary and secondary education in its central cities was seen as one of the region's greatest liabilities. Schools are one of the major centrifugal forces that have moved middle-class whites --and, increasingly, blacks also--to the suburbs. The failure of large city school systems to educate young people for work, or even to make them literate, is a prime regional concern because of the large concentration of major cities in this region. In spite of increasing amounts of federal assistance, education is still a state and local responsibility.

There are no quick and easy or inexpensive answers about how to improve the quality of urban education systems. The problem is compounded by the effects of past racial discrimination which have concentrated on lower-income blacks in such cities. Most of these cities have the dual task of improving education quality, while carrying out court-ordered desegration plans. The quality of urban public school systems must be improved if the body of unemployable young people is not to increase dramatically.

Part of the problem is financial. Some state laws have the effect of discriminating against central city school systems. With the flight of taxable property and income-producing jobs from central cities, local taxes will be an increasingly less adequate base for financing schools in central cities. States

will have to consider whether the education of young people ought to be a general state responsibility rather than the mixed system of state and local financing which presently exists.

Money alone will not solve the problem. A reorientation of schools to assure the development of basic reading and mathematical skills is essential. Cities such as Cleveland are attempting to do just this.

The vocational and technical schools need to be better geared to the current needs of businesses that have expanding numbers of jobs. The businessmen interviewed frequently praised the vocational education programs in southern states such as North Carolina. Their view was that Southern programs were more directly oriented toward meeting the immediate employment needs of new and expanding industrial plants.

Finally, the support of public colleges and universities is important. Although it is true that the region's universities educate many people who later migrate to other regions, the research and knowledge base that these schools represent is a major attraction to industry and service business.

RECOMMENDATIONS

1. Public Primary and Secondary Education

The need to improve the quality of public education, the level of literacy and basic skills of graduates is well known. Billions of dollars are being spent on such efforts. Study committees at state, local and national levels are grappling with ways to solve some of these seemingly intractable problems. The Committee can support such efforts and dramatize the fact that the quality of public education is closely related to economic development. Communities

with good schools will attract growth; those with poor schools will lose industry and commercial activity and accumulate growing numbers of unemployable youths.

2. Vocational Education

Vocational and technical education must be better focused as an economic development tool. Efforts should be expanded to develop better forecasts of near- and long-term needs of industries in the regions served by these schools and methods developed for rapid curriculum adaptation to changing needs.

3. Higher Education

The region's network of public universities should continue to receive strong support as it is one of the region's greatest economic development assets, not only as a source of managerial and technical talent for industry, but also as a research base needed for industrial expansion and new enterprise generation in the region.

D. STIMULATING NEW INVESTMENT

1. Economic stagnation in this region stems primarily from the high death rate or contraction of existing firms which is not now being offset by the expansion of existing business and the creation of new firms. In the past, economic self-renewal brought the region its economic prominence.

2. While funds for large-firm expansion are available in the national capital markets, high-risk venture capital for small start-up firms has been difficult to access both in the region and nationally.

3. The need to encourage new start-ups in the region should be one of the region's major economic concerns. A number of steps might be taken to improve access to capital for such firms. Other observations include:

   - Retention and modernization of existing facilities must be a key element in the region's economic development strategy.
   - In spite of continued high rates of capital investment, obsolescence is a problem in some industrial sectors. Modernization of plants is occurring, though perhaps at a lower rate than desired. Tax incentives encouraging modernization are suggested as a key component for any economic development strategy.
   - Changes in federal policy, such as the elimination of the double taxation of dividends and a larger tax credit for investment perhaps targeted on older areas in economic distress, might increase investment.
   - Red tape in gaining approval from many government agencies, coupled with the delays and uncertainty inherent in this process, discourages firms from locating in some areas of the Great Lakes.
   - To diversify the region's economic base, new types of firms should be attracted. However, the region may be more successful doing this if it tries to attract firms related to its existing manufacturing base in such fields as transportation technology, solid waste management, and information systems.

KEY INVESTMENT SECTORS

Manufacturing

The Great Lakes is the locus of much of the nation's heavy industry, so its share of dollars invested in manufacturing has been higher than its share of U.S. population (21%). The region's share of investment averaged 29.8 percent from 1960 to 1973 and was only slightly lower in the 1969 to 1973 period (28.6 percent).* Maintenance of its manufacturing base is viewed by Great Lakes business, labor, and government leaders as one of the most critical elements in ensuring the future economic health of the region. Expansion of that existing base will account for the largest net additions to manufacturing employment in the region even while modernization of existing facilities reduces jobs in some plants.

The states of the region are economically linked through the manufacturing sector; i.e., steel for machine parts and machine parts for automobiles. The interconnectedness in manufacturing means that issues which affect the ability of manufacturing firms to modernize and expand have a substantial regional dimension. These issues fall into two categories: those that affect the desire of firms to invest and those that affect their ability to borrow money to finance investment. Large firms are able to meet their needs for investment capital through their own earnings or by borrowing in national markets.

Small Business

Small firms outside the region's traditional manufacturing base face somewhat different problems. In the Great Lakes region most of the deaths and births of firms which occurred between 1969 and 1974 were among those with fewer than 100 employees; however, the death rate exceeded the birth rate and a net employment loss occurred. The small start-up firms attempting to manufacture

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* Calculated from the Annual Survey of Manufactures.

new products and technologies are of particular significance to the Great Lakes economy because most new employment growth in manufacturing nationally is derived from these innovative new companies. Thus, as employment in traditional manufacturing stabilizes or declines, growth in innovative new industry is essential to absorb displaced blue collar workers. The Great Lakes region is not attracting a sufficient number of such manufacturers. These are footloose companies capable of locating anywhere in the nation. They tend to be responsive to population movements, regional amenities and labor force quality. But a number of studies have found them particularly sensitive to the availability of investment capital in specific areas of the country. The growth of high technology firms outside of Boston during the 1950s and 1960s, for example, has been ascribed to several sources of willing private venture capital as well as federal research dollars. Stimulation of high growth manufacturing in the Great Lakes region would, therefore, require some attention to the regional capital market.

Regional Capital Markets

Because money is mobile, the credit market is generally considered to be a national market. Large firms and large cities and states can borrow funds in this national market because lenders can easily ascertain the creditworthiness of these customers. Much saving has tended to become more institutionalized in pension funds, life insurance companies, mutual funds, and the largest banks -- all of which are participants in the national credit market. Pension fund assets have tripled since 1962 and deposits in the ten largest banks have increased from 20 to 33 percent of all deposits in the same period.*

The development of secondary markets, the use of correspondent banks, and the growth of bank holding companies, as well as fewer restrictions on branching rules for commercial banks, have also facilitated national capital flows. Thus, over time there has been a movement toward greater nationalization of capital markets and

* U.S. Small Business Administration, Report of the SBA Task Force on Venture and Equity Capital for Small Business, January 1977, p. 11.

a reduction in the regionalization of funds. This is a desirable development for expanded national output and regional incomes.

For some borrowers, however, the market for credit still must be regional and local. Home mortgages and installment loans, loans to small firms, and farm loans are to a large extent limited to regional lenders. Information about small borrowers is more costly for distant lenders to obtain and access to distant lenders is more costly for borrowers.

The information costs due to distance would not be sufficient for significant regionalization of credit unless there were some constraints on the national flow of funds or perhaps less than a fully competitive market among local lenders. The branching regulations in a state can hinder the flow of dollars among banks within a region. Entry restrictions have probably resulted in fewer banks than would have otherwise existed. This reduces competition, especially in areas served by only a few banks. In general, small and riskier borrowers are hurt more by reductions in competition than large borrowers who operate in national credit markets.

Some types of enterprises may be particularly disadvantaged by regulations and a limited number of banks. For example, some rural banks find that they are close to their lending limits, given the increased cost of agricultural equipment.

Banks do supply some funds for existing small firms which have adequate collateral and debt-net worth ratios. An additional source of funds for small business could be savings and loans. At present, they invest the major portion of their funds in housing. However, they are extremely knowledgeable about local economic conditions, and if permitted, could provide loans to firms. The concept of broadening the activity of savings and loans is not new and has been proposed by financial

reform commissions at the federal level. In addition, states such as Massachusetts have been considering expanding the legal list of eligible investments for state-chartered thrift institutions to include specific firms operating in the State.*

More marginal existing firms often cannot qualify for the long-term loans necessary for growth. The Small Business Administration has attempted to finance a portion of these riskier firms through direct loans and guarantees of bank financing.

In the Great Lakes region, SBA business loans are far lower than the region's share of population. In both 1972 and 1976, only about 12 percent of SBA's total volume of business loans occurred in the Great Lakes. It is not clear why SBA activity is lower. One possible explanation is a conservative attitude by area bankers which means they would not participate in guaranteed loan programs. A contrary explanation could be that aggressive lending by banks leaves less need for SBA assistance to firms. Conversations with SBA employees in the region suggest that fewer resources are put into staff in this region, and therefore awareness of SBA programs is relatively low.

Venture Capital

The riskiest business loans are probably for the start-up and expansion of high-risk, high-growth potential firms, i.e., venture capital. There is little centralized information on the availability of venture capital dollars or the demand for these funds by entrepreneurs. Although the percentage of the total investment which takes place is these firms is small, interest in nurturing them is high because the growth in employment which they could generate, if successful, is

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* Background Information on Proposed Legislation and Legal List, mimeograph.

high. A study by the MIT Development Foundation found that the growth for young, high-technology firms in sales and jobs was 42.5 and 40.7 percent respectively from 1969 to 1974.*

Venture capitalists favor investment after a firm has developed its prototype and begun production. Funds are generally not available for true start-ups. Venture firms are usually purchasers of equity rather than loans. The primary sources of venture funds are individuals, family and publicly owned venture capital firms, and small business investment companies (SBICs). Prior to the Employee Retirement Income Security Act (ERISA), pension funds either directly or through venture capital companies were another source of funds. Sixty-four percent of pension trustees surveyed by the International Foundation of Employee Benefit Plans in 1976 reported that as a result of the 1974 pension law they were less willing to invest in anything other than blue-chip-type investments.** For example, the Ohio State Teachers' Retirement Fund had invested 0.4 percent of its $3 billion portfolio in venture capital companies. Under ERISA's "prudent man" rule, retirement fund managers at OSTRF no longer engage in venture investments because they believe that these are now disallowed.

In 1969, 548 small businesses were able to raise almost $1.5 billion through first time stock offerings.*** However, since the later 1960s the stock market has not been a good vehicle even for established firms to raise money. Less well-known firms of the sort that venture capitalists finance are less likely to be able to raise funds by going public. In 1972 firms with a net worth of less than $5 million raised $918 million in 418 underwriting; by 1975 there were only four such

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* Report of the SBA Task Force, p.2.

** U.S. Congress, Senate, Senator Bentsen speaking for Senate Bill 285, 95th Congress, 1st session, 18 January 1977, Congressional Record, vol. 123.

*** U.S. Congress, Senator Nelson speaking for Senate Bill 1815, 95th Congress, 1st session, 30 June 1977, Congressional Record, vol. 123.

underwritings with a value of $16 million.* Because venture capitalists may eventually want to take their money out of a firm, the inability of firms to go public may tend to discourage some investment.

The data available on all venture capital firms are limited, though information exists for SBICs because they are licensed by and must report to the SBA. Only 38 U.S. SBICs (14.9 percent) are located in the Great Lakes.** Location of SBICs need not correspond to lending locations in a national capital market. However, most venturers want to be able to oversee their investment and be able to advise the fledgling company before problems become too substantial. A rule of thumb used by some SBICs seems to be to invest in firms which can be reached in a day's travel.

The SBA reports SBIC financing by state, but not by origin of loans. The low share of SBICs in the Great Lakes is also paralleled by a low share of financing acitivity, 11.8 percent ($12,603,843).*** The SBIC recently created an index to rank states on the basis of "adequacy of SBIC activity". The index takes into account a state's share of SBIC balances, employment, bank assets, and the size of SBIC financing. According to the 1976 SBIC index, all six Great Lakes states were below 100, which represents inadequate activity.**** The range for Great Lakes states was from 9.22 for Illinois to 53.34 in Minnesota. Although the venturing of states varied in 1974 and 1975, only one state, Wisconsin, ever exceeded 100. The region's share of SBIC loans in 1974 and 1975 were also low, 10.4 and 11.9 percent, respectively.

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* Report of the SBA Task Force, p. 1.

** U.S., Small Business Administration, SBIC Digest, Spring 1977.

*** U.S., Small Business Administration, Directory of Operating Small Investment Companies, June 1977, C-11.

**** Ibid., C-12.

The low amount of venture loans in the Great Lakes has been attributed to a general decline in venture dollars available at the national level because of the recession, problems with real estate investment trusts and restrictive federal rules on institutions such as pension funds. This does not, however, explain the low Great Lakes fraction of total SBIC dollars. Some venture capitalists have suggested that the number of good opportunities available in the Great Lakes is low. What may be true is that although many ideas with venturing possibilities are generated in the Midwest, the skills necessary to put a fi m together are often lacking in a single entrepreneur. If this is true, technical assistance for both start-ups and early business operations could increase the probability of entrepreneurs in the Great Lakes obtaining venture financing.

RECOMMENDATIONS

Recommendations involving changes at the federal level. These can be best promoted by regional action:

1. Relaxing Portfolio Regulations

Because saving is being increasingly institutionalized and because financial institutions have significant constraints on the kinds of investments they can make, larger investment in high-risk firms could be obtained by relaxing portfolio regulations. For example, the Employee Retirement Income Security Act (ERISA) could be changed so that the "prudent man" rule applies to the total portfolio rather than to each investment.

Senator Lloyd Bentsen introduced a bill in 1977 which would give managers of pension funds the leeway to invest two percent of the assets of their plan in

companies with paid-in capital of less than $25 million or in venture capital firms which invest in such companies. This is the type of change required to increase funds for high-risk, potentially high-growth firms.

2. Incentives for Modernization

Federal incentives for modernization of plants should be examined for total impact, e.g., larger tax credits, higher depreciation allowances to add to internal sources of funds, the tax treatment of dividends and capital gains. Special corporate tax treatment for small business has been proposed in the Senate Small Business Committee to increase the ability of these firms to grow through retained earnings. In addition, tax reform has been identified as a major legislative interest for the Carter administration. It is in the region's interest to ascertain which types of tax changes will benefit its industry most, i.e., those for which the target is modernization.

3. Strengthening the Small Business Administration

The SBA could be strengthened so that it is a bigger source of investment for small firms and for venture capital. An SBA task force has identified several areas for improvements and legislation responsive to these suggestions has been proposed in the Senate Select Committee on Small Business. This legislation includes lowering the leverage costs for SBICs and greater SBA sharing of the risks SBICs take when making start-up investments.

The Small Business Development Center Act is innovative legislation which provides assistance for management, product planning, and marketing. Universities in conjunction with the SBA would be used to make centrally available continuing input for small businesses. This bill has passed the Senate and is presently in the House. The region could benefit from having a mechanism to involve its universities in the management and development of small businesses.

Recommendations which may best be accomplished by action at the regional level:

4. Funds for Small Firms

The level of funds available for existing firms in the region may be insufficient; an assessment of the sources and amount of funds available would be helpful. The reasons for the region's low share of SBA loans and SBIC activity ought to be determined. The effectiveness of technical assistance currently available from state government agencies, the SBA, and others may be blunted by a lack of awareness of the programs, and by confusion arising from the overlapping functions. Coordination among groups offering technical assistance and an ongoing effort to inform small businesses of the resources available could substantially assist marginal firms and increase the birth of firms in the region.

5. Study of Venture Development in the Region

In the Great Lakes region, venture capital availability and the identification of entrepreneurs and their demand for funds are two topics on which there is

little organized or easily accessible information. A study of these issues could considerably improve the region's development of new, potential high growth enterprises. The dynamics of generating venturing activity are not well understood. There may be economies of scale from sharing among the states existing knowledge about encouragement and support for individuals who could become entrepreneurs as well as their fledgling firms. Perhaps high sales potential firms could be generated by an organized and sustained effort to make available to entrepreneurs the array of talents needed to manage a successful start-up firm. Assistance in joining entrepreneurs with venture capital and SBICs throughout the region could also be useful.

6. Information Clearinghouse

Set up a clearinghouse for dissemination of information on successful financing and economic development experiments. Although large cities in the region may keep in close touch, smaller cities and rural areas may especially benefit from more organized contact during which common problems and successful solutions can be shared.

7. Encouraging Foreign Investment

Joint ventures to encourage foreign investment in the region will directly and indirectly benefit all the states because of the employment and purchasing linkages. Joint ventures to encourage purchases of the region's products by foreign countries could generate more demand for the region's products.

Recommendations requiring action at the state level and affecting the supply of credit:

8. Branch Banking

Concentration in banking in a local area can lead to less competition among banks and result in a lower volume of loans through either high interest charges or a shared conservative lending policy. The flow of funds between banks can also be impeded by the structure of the banking industry. All states in the region except Illinois have limited branching laws. State-wide branching should be examined to determine if improvements in customer service and ease of transfer of funds from surplus to capital-starved banks outweigh disadvantages which could stem from potentially increased concentration of banking activity.

9. Broadening Charters of State Investment Institutions

Legislation allowing state-chartered savings and loans to invest in a wider variety of investments could increase the supply of credit to local businesses.

Recommendations requiring action at the state level and affecting investment demand:

10. Easing State Licenses and Approvals Problems

Business firms would be more likely to locate new or additional facilities in the region if there were one person or agency responsible for coordinating the many agency approvals required before a plant is built. A streamlining of this process would reduce delay and uncertainty for firms.

11. Risk Pooling

Government, at both the state and local level, can take a leadership role in encouraging innovative techniques to rebuild decaying areas of cities and increase loan availability in rural areas. Risk pooling by banks and other financial institutions are one means of doing this.

12. Tax Incentives for Modernizing Industrial Plants

Revision of state tax laws which could give incentive to firms to modernize existing plants should be considered.

E. ENERGY AND THE FUTURE OF THE GREAT LAKES ECONOMY

1. Uncertainty of supply is the major energy problem. Because of the region's heavy concentration in manufacturing, the Great Lakes states are large fuel consumers. Consumption is approximately balanced among coal, natural gas, and oil, although the six states vary considerably in their dependence on various fuels.
2. Although the region is a net importer of energy, it has abundant coal reserves; however, their high sulfur content presently impedes the full realization of their potential.
3. The availability and price of energy are, of course, highly dependent upon national energy policies. As both a major supplier and consumer of energy, federal government action in large measure will determine the ease with which this region can make the transition to higher priced fuels and a different mix of fuel use.
4. Federal policies on automobile fuel consumption will have a major impact on the region in both short term adaptation of automobile industry operations and in the mix of foreign and domestic automobile purchases.

Of increasing concern, both regionally and nationally, is the role of energy in economic growth and development. The extreme cold of early 1977 revealed the vulnerability of some sections of the Great Lakes region to disruption in natural gas supplies. Debate and legislative action on the President's National Energy Plan have further served to increase public awareness of national and regional energy issues.

Implementation of a strong national energy policy will have both direct and indirect implications for the Great Lakes region. As a heavy manufacturing area, the region is a large consumer of all types of energy. The Great Lakes region is also a significant producer of energy from its abundant coal reserves. National efforts to shift to coal and domestic oil and gas will most likely mean increasing development of regional supplies. Such development, however, will require careful balancing of developmental objectives with environmental and social values.

The survey revealed several perceptions of energy issues that will affect and shape future growth in the Great Lakes region. These include:

- Concern over energy prices, but assurance of supply was a far more important issue. Management of supplies by gas companies was of particular concern in some parts of the region.
- Concern that the region's own energy resources should be more fully developed; that ways to facilitate use of high sulfur coal should be promoted, and that energy resource development not be allowed to affect environmental quality.

- Concern over the effect national energy policy may have on regional employment, particularly the effect that efforts to increase American automobile efficiency may have on the region's auto-related economy.

This section presents an analysis of these three broad issues and presents recommendations for dealing with them.

ENERGY CONSUMPTION, PRICES AND SUPPLY UNCERTAINTY

Because of its heavy concentration in manufacturing, the Great Lakes region is a large consumer of many fuels. In 1973 (latest year for which comprehensive national data are available), the region accounted for 22% of net U. S. energy consumption as shown in Table 1. (The region has 21% of 1973 U. S. population and produced about 22% of 1973 Gross National Product.)

As a region, total fuel consumption as of 1973 was balanced approximately equally among coal, natural gas and oil commodities, as shown in Table 2. The impact of the 1973 oil embargo, five-fold increase in oil prices and curtailment of interstate gas shipments have prompted shifts to coal or fuel oil on the part of many businesses. As such, the 1973 data understate the relative share of coal in regional energy consumption.

Although comparable, the six states of the Great Lakes region vary in their relative dependence on the various fuels (see Table 2). States such as Ohio and Indiana are more dependent on coal whereas Illinois, Minnesota and Wisconsin were relatively more dependent on petroleum products in 1973. Michigan is the most evenly balanced state in the use of these fuels.

Prices for all forms of energy have risen sharply since the 1973 Arab oil embargo and the subsequent five-fold increase in the price of imported crude oil. While the Great Lakes region tends to have average fuel prices

TABLE 1.

1973 ENERGY CONSUMPTION AS A PERCENTAGE OF U.S. CONSUMPTION
(Trillion BTU's)

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower	Nuclear Power	Gross Inputs	Net Inputs
Great Lakes	9.0	4,621.5	5,569.9	4,550.2	51.2	342.3	15,144.1	12,684.2
United States	122.8	12,159.9	31,666.6	22,723.0	3,075.4	888.3	70.635.9	57,497.1
United States (%)	7.3%	38.0%	17.6%	20.0%	1.7%	38.5%	21.4%	22.1%

Source: Bureau of Mines Information Circular, 1976, Fuel and Energy Data, 1973.

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TABLE 2.

RELATIVE FUEL CONSUMPTION PATTERN, 1973

	Anthracite	Bituminous Coal and Lignite	Petroleum	Natural Gas	Hydropower	Nuclear
			(Percentages)			
Illinois	.04	23.0	39.3	31.8	.03	5.8
Indiana	.04	41.9	34.6	23.3	.2	-0-
Michigan	.1	27.4	37.7	33.4	.3	1.1
Minnesota	.03	15.3	49.7	31.2	.9	3.0
Ohio	.09	40.5	29.1	30.3	.003	-0-
Wisconsin	.02	22.3	42.2	28.5	2.0	5.0
Great Lakes	.1	30.5	36.8	30.0	.3	2.3
United States	.2	17.2	44.8	32.2	4.4	1.3
U.S.-G.L.	.2	13.6	47.0	32.7	5.4	1.0

Source: Bureau of Mines Information Circular, 1976, Fuel and Energy Data, 1973.

comparable to the national averages, natural gas prices for industrial and commercial purposes in 1975 were about 10% higher than the national average, and about 15% to 30% higher than the gas-producing states in the South.

The future rate of increase in energy prices (particularly natural gas and crude oil) will be determined by international events, federal policy on regulation of natural gas and "old" oil, and the effects of conservation efforts on demand. Provided a balanced national energy policy can be developed, there is no reason to assume that rising relative energy costs alone will severely affect the Great Lakes manufacturing economy and the region's long-run development.

Perhaps more significant than relative energy prices is availability of supply. Uncertainty concerning federal gas and oil pricing policy confuses the energy situation for all energy intensive firms. This confusion may deter investment or, more significantly, lead firms to take out "insurance" by locating near energy supplies, which are mostly available in the energy producing states of the South. Present federal regulation of the well head price of natural gas produced for interstate shipment has resulted in increasing production for unregulated intrastate markets. The certainty of supply in the producing states must be considered an important locational advantage for such areas. Phased deregulation of energy prices would help in the long run to balance the energy cost and supply environment of the various sectors of the nation, while providing the capital and incentives for exploration and new production.

The issue of regional natural gas supply uncertainty can be separated into two components. First, partially as a result of regulation of well head price of gas produced for interstate shipment, total quantities of natural gas

available have actually declined since the late sixties. Regulation of the interstate market has also created an incentive to sell gas to unregulated intrastate markets. While total supply has declined, the artificially low price of interstate gas has meant growing demand. As a result, some industrial customers have been discontinued and others with a non-interrupted service have been curtailed to varying degrees. The second part of the problem relates to how specific transmission companies and gas utilities have managed long-run planning related to purchase contracts, supplemental gas, and development of underground storage. The extreme cold of early 1977 placed peak demands on all transmission and gas utility systems in the region. Those with inadequate storage or emergency contracts or sources of supply, or transmission capacity to handle peak loads, were forced to curtail service in varying degrees to industrial and commercial customers. This problem was particularly severe in Central Ohio and portions of Indiana where schools and factories were closed during February.

With the exception of extreme conditions, the management of natural gas supply does not appear to be a major region-wide problem. The larger problem is long-run and involves the need to price natural gas at its scarcity value. With a price which reflects opportunity cost, consumers would have an incentive to economize and producers to explore for new supplies or plan for other fuels.

REGIONAL ENERGY SUPPLY

Although a net importer of energy, the Great Lakes region has abundant coal reserves and some reserves of natural gas and oil. Because of environmental restrictions related to sulfur content, however, the region is not able to realize the potential of its coal reserves for use in local industry and power

generation. National energy policy and the enforcement of environmental regulations and technical development will be important determinants of the future direction of regional energy development.

The three Great Lakes states account for almost 30% of the total estimated remaining identified resources of bituminous coal in the U. S. as of January 1, 1974 (Table 3).

Of the coal consumed in the Great Lakes states, approximately half presently comes from outside the region. On the other hand, the region exports about 20% of its coal production, primarily to nearby states. State-by-state, the following situation prevails:

- Illinois- Produces 60% of its own coal; another 21% comes from the Montana/Washington area.
- Indiana- Produces 45% of its own supply; another 13% comes from Illinois.
- Michigan- Imports 30% from "Southern #2"; another 27% comes from Ohio and 18% from West Virginia.
- Minnesota- Imports 65% from the Montana/Washington area; another 12% from Illinois.
- Ohio- Produces almost 50% of its own supply; another almost 25% comes from "Southern #2".
- Wisconsin- Imports 34% of its supply from Illinois; another 19% from Montana/Washington area, 13% from western Kentucky, and 11% from "Southern #2".

Source: U.S. Bureau of the Mines, Mineral Industry Surveys, Bituminous Coal and Lignite Distribution, 1976.

TABLE 3.

TOTAL ESTIMATED REMAINING IDENTIFIED RESOURCES
OF COAL AND LIGNITE BY STATE, JANUARY 1, 1974
(Billions of short tons)

State	Total Coal and Lignite	Coal			
		Anthracite and Semianthracite	Subbitu-minous	Bituminous	Lignite
United States	1,730.9	19.7	485.8	747.3	478.1
Illinois	146.0			146.0	
Indiana	32.9			32.9	
Chio	41.2			41.2	

Source: Paul Averitt, U.S. Department of the Interior. Coal Resources of the United States. January 1, 1974 (Bulletin 1412).

Although not major producers of natural gas, several of the Great Lakes states have in-state reserves which are developed to varying degrees. Table 4 shows estimated proved recoverable reserves of natural gas for the Great Lakes states and the U.S.

TABLE 4.

TOTAL ESTIMATED PROVED RECOVERABLE RESERVES
OF NATURAL GAS, 1975
(millions of cubic feet)

	Preliminary Net Production, 1975	Reserves
Illinois	1,304	380,804
Indiana	143	59,839
Michigan	105,703	1,606,749
Ohio	85,822	1,354,010
United States	19,718,500	228,200,176

Source: American Gas Association, American Petroleum Institute and Canadian Petroleum Association, Reserves of Crude Oil, Natural Gas Liquids and Natural Gas in the United States and Canada as of December 31, 1975.

Recoverable reserves in the region as of 1975 accounted for about 1.5% of total U.S. reserves. Preliminary net production in the Great Lakes states in 1975 accounted for slightly less than 1% of U.S. production.

Crude oil reserves in the Great Lakes states are also a small fraction of total U.S. reserves, as shown in Table 5. Crude oil production in the four Great Lakes states in 1975 accounted for about 2.2% total domestic U.S. production and proved recoverable reserves amounted to 1.2% of total U.S. recoverable reserves.

TABLE 5.

ESTIMATED PROVED RECOVERABLE RESERVES
OF CRUDE OIL, 1975
(thousands of barrels)

	Estimated Production, 1975	Reserves as of December 31, 1975
Illinois	25,434	160,986
Indiana	4,565	22,029
Michigan	24,533	93,312
Ohio	9,578	121,263
United States	2,886,292	32,682,127

Source: Same as Table 4.

Because of its abundant reserves of coal, a significant portion of electricity generated in the six states is based on coal. Data for 1973, presented in Table 6, show the relative proportion of fuel used in generating electricity in the states. Ohio and Indiana presently produce most of their electricity by coal. Illinois, Michigan, Minnesota, and Wisconsin have more diverse electric power generation bases, with nuclear power playing a more prominent role.

Trends in relative energy prices, supply availability, technology and environmental considerations will lead to shifts in the composition of fuel use in the region.

TABLE 6.

USE OF COAL IN ELECTRICITY GENERATION, 1973

	Percent
Illinois	67
Indiana	96
Michigan	75
Minnesota	52
Ohio	96
Wisconsin	52

Source: Bureau of Mines Information Circular, 1976; Fuel and Energy Data, 1973.

REGIONAL ENERGY DEVELOPMENT

The National Energy Plan that must eventually be agreed upon will undoubtedly depend upon efforts to increase domestic energy production, a strategy that will have important consequences for each section of the country and a strategy in which the Great Lakes, by necessity, must participate.

The National Energy Plan sent by the President to the Congress, while stressing energy conservation measures, rests on several presumed increases in domestic production that must involve the coal and potential offshore oil and gas in various parts of the nation.

Because of its role as both a major energy supplier and a major energy consumer, the Great Lakes faces important problems in making the transition towards higher relative energy prices. How smooth the transition away from an economy based on cheap energy actually turns out to be will depend on both regional and national policies. Of particular concern for the Great Lakes region are the following items:

- Acceleration in development and use of regional coal resources.
- Acceleration in development of regional natural gas and oil, including possible drilling in the Great Lakes, and development of shale sources.
- Expansion of the role of nuclear power in regional electricity generation and consideration of ways of achieving greater efficiency through increased coordination of regional power systems.
- Increase in the use of solar energy as a supplement to conventional sources.

Increased development of the nation's fuel resources will have direct effects in the Great Lakes states, in particular, Illinois, Indiana, Ohio and Michigan. Acceleration in the development of these regional resources is not without significant problems and will involve compliance with strict environmental standards.

Coal. Although the coal fields of Illinois, Indiana, and Ohio contain vast reserves, the high sulfur content of the coal restrict the extent to which it can be used. Federal air quality standards limiting the sulfur dioxide emissions from power plant stacks means that coal in the middle western fields can only go to boilers equipped with stack gas scrubbers or be cleaned by other methods. Although still costly and controversial, scrubber technology does appear to be emerging as an economically viable alternative for using local, high sulfur coal.*

Air quality standards are not the only constraints on development of Midwestern coal reserves. Strip mine reclamation requirements increase the cost of surface-mined coal. There is also the issue of tradeoffs between strip mining and prime farmland in the coal-and-farm belt of Illinois and Indiana. Rail and waterway transport capacity also will constrain rapid expansion of coal production. Health and safety standards for miners and labor instability pose other challenges. On a global basis, significant increase in coal burning could raise the level of carbon dioxide in the atmosphere, causing significant increase in average temperatures. These considerations weigh heavily against any significant near-term (next five years) expansion in Great Lakes coal production. In the longer run, however, advances in technologies for pollution control, coal gasification or liquefaction, and coal cleaning, together with improvements in the rail system, should satisfy the necessary conditions for expanding regional coal production.

Gas and Oil. Though small in comparison to the Gulf of Mexico and Atlantic Continental Shelf, deposits of natural gas and oil along the eastern side of Lake Michigan, in and around Saginaw Bay, and in the Lake Erie Basin are

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* Kansas City Power & Light, after extensive experimentation with maintenance and corrosion control, is now operating the scrubbers on its 820 megawatt coal-fired plant at 95% availability rate compared to 55% in 1973 (WALL STREET JOURNAL, Tuesday, June 14, 1977).

potential sources of supplemental supply to the Great Lakes economy. In the U.S. territorial waters of Lake Erie are an estimated 600 billion cubic feet to 3 trillion cubic feet of recoverable gas based on U.S. Geological Survey estimates. Bans on drilling, imposed in the sixties in response to environmental concerns, are now being reevaluated in light of the current energy situation. Ohio has a major portion of the U. S. side of Lake Erie under its jurisdiction and would stand to gain the most from development of the lake. Undeveloped on-shore sites in Ohio, however, offer a less costly source of supplemental gas supply for the state. Removal of drilling bans on the Michigan portion of Lake Erie would raise the issue of drilling in the other lakes bordering Michigan. Because of the importance of environmental quality to the local tourist economies along Michigan's shore, proposals for lake drilling are likely to meet with significant opposition.

Although it is probable that Great Lakes gas will someday be developed, how soon and in what manner will depend on several factors. Reduction in the rate of growth of U. S. energy consumption, commercialization of solar energy, development of nuclear power, and imports from gas producing areas of Canada or Alaska will reduce pressures for exploitation of gas reserves in environmentally sensitive areas such as the Great Lakes.

Natural gas and oil from eastern shale represents a potential fossil fuel resource of considerable magnitude in the Great Lakes region. Distribution of these deposits is shown in Figure 1. Michigan alone is estimated to have shale containing organic content equivalent to 60 times the nation's current crude oil reserves*. Technology for utilizing this resource is still in the experimental stage. It involves methods of increasing

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* Mr. R. David Matthews and Dr. John P. Humphrey, "A Search for Energy from the Antrim," Paper Number SPE 6494, American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc., 1977.

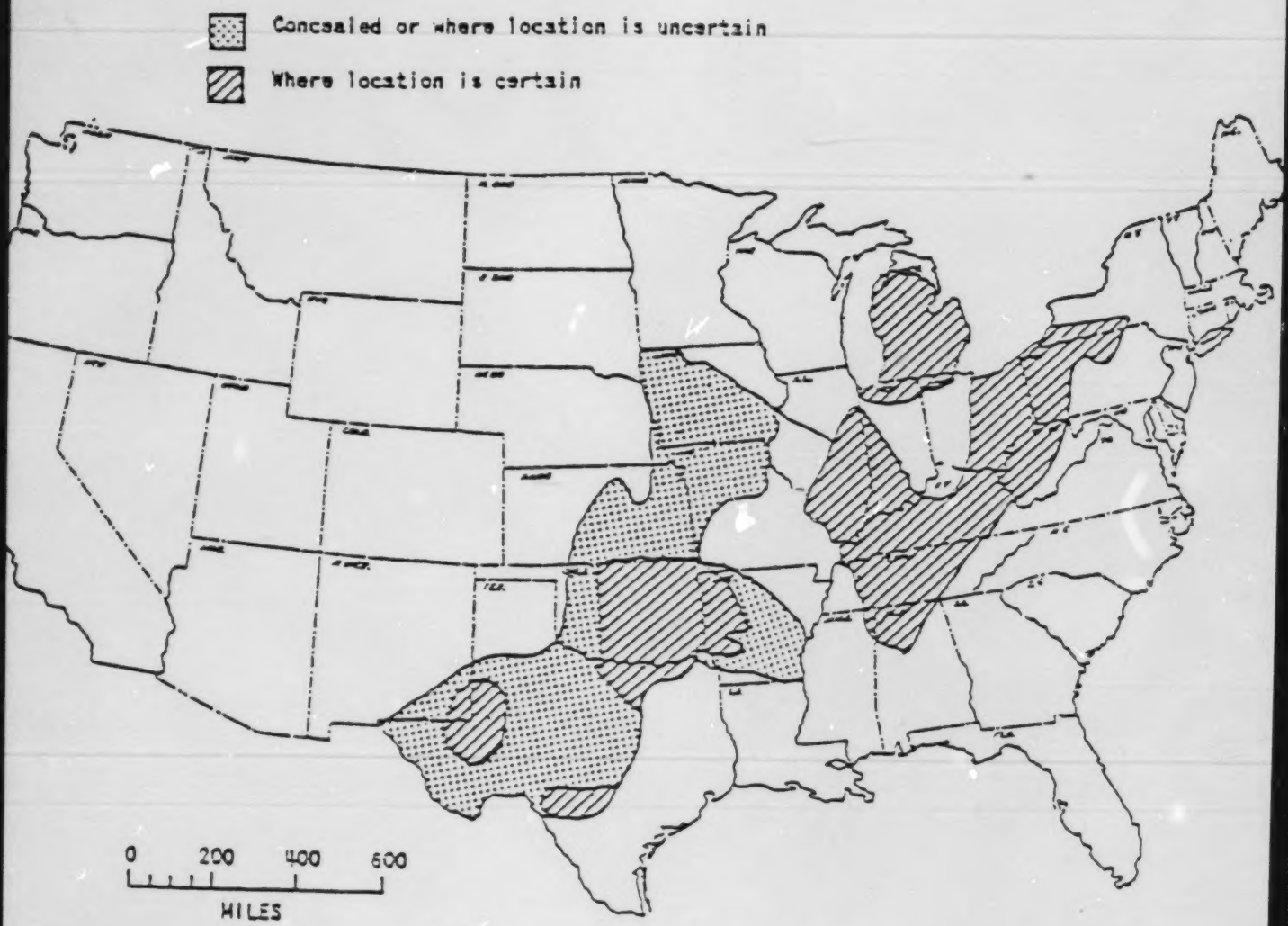

FIG. 1 - DEVONIAN AND MISSISSIPPIAN SHALE DEPOSITS OF THE UNITED STATES.

SOURCE: William K. Overby, Jr. "Increasing Eastern U.S. Natural Gas Reserves from Gas Bearing Shales," Paper Number SPE 6364, American Institute of Mining, Metallurgical, and Petroleum Engineers.

the flow of gas by means such as fracturing of the shale. Attempts to develop Michigan oil shale have involved use of underground high-pressure air and oxygen as reactants. Hydraulic fracturing and chemical explosives have been used on a massive scale in attempts to generate the necessary fracture permeability for in situ retorting. Use of these on a commercial basis is still several years away. Development will require further advances in the state of the art of production technology as well as further rises in the relative price of easily accessible supplies of oil and gas. There are already several million dollars of federally supported research on the development of gas and oil from regional shale deposits. Acceleration of this research as well as a rise in the relative price of conventional sources of gas and oil could lead to more rapid development of the region's shale oil and gas resources.

Electricity Generation and Nuclear Power Development. As a region, the Great Lakes states produced almost 40 percent of the nation's nuclear-generated electricity in 1973. Actual and projected fuel composition for electricity production in the East North Central states is shown in Table 1. Nuclear power is projected to increase more than threefold in relative share by 1985 with coal declining in relative importance from 82 percent to 66 percent in relative share.

The projected 1985 reliance on nuclear power in the Great Lakes region reflects assumptions about the real costs of oil and other fossil fuels and the speed with which transition to nuclear fuel can occur. If the past several years are typical, siting problems and construction delays will be major impediments to the increased use of nuclear fuel as a source of electricity generation. It will be essential that these impediments be surmounted as legitimate environmental and public safety requirements are met.

Solar Energy. In addition to space heating from solar sources, solar energy development potentials include supplemental electricity generation by

TABLE 1

PERCENT CONTRIBUTION FROM EACH FUEL TO REGIONAL AND TOTAL U.S. ELECTRICITY GENERATION

Region	Coal			Oil/Gas			Nuclear			Hydro			Other		
	1960	1974	1985*	1960	1974	1985*	1960	1974	1985*	1960	1974	1985*	1950	1974	1985*
Northeast															
New England	50.3	7.4	26.8	31.7	61.3	28.4	0.1	24.4	41.0	17.9	6.9	3.9	----	----	----
Middle Atlantic	69.3	42.7	47.9	18.5	36.2	13.6	0.2	8.5	29.9	12.0	12.6	7.3	----	----	1.2
North Central															
E. North Central	93.5	82.0	66.4	3.8	8.7	5.8	0.2	8.3	26.3	2.5	1.0	0.6	----	----	1.0
W. North Central	40.3	54.4	70.1	46.9	27.2	4.9	---	7.7	17.2	12.6	10.7	7.7	0.2	----	----
South															
South Atlantic	66.3	54.9	52.6	20.2	32.5	10.3	---	7.4	32.0	13.5	5.2	7.3	----	----	1.2
E. South Central	74.5	76.5	50.8	5.5	5.4	4.5	---	3.6	37.3	20.0	14.5	7.4	----	----	----
W. South Central	----	3.0	20.6	95.7	92.6	55.3	---	0.2	22.8	4.3	4.2	1.4	----	----	----
West															
Mountain	11.8	46.3	48.7	36.6	23.2	16.9	---	---	14.9	51.6	30.5	15.2	----	----	3.7
Pacific	----	1.7	4.7	42.0	27.8	19.9	---	2.8	10.2	58.0	66.7	62.2	----	1.0	2.5
NATION	53.5	44.5	45.4	27.1	33.2	16.1	0.1	6.0	26.1	19.3	16.1	11.5	----	0.1	1.0

*Assuming a $13 per barrel c.i.f. price in 1975 dollars

Source: National Energy Outlook, Federal Energy Administration, FEA-N-75/713, U.S. Government Printing Office, Washington, D.C., February 1976.

windmill, particularly along the shores of the Great Lakes, and bio-conversion* making use of the forested areas of the Upper Great Lakes states.** Use of technology and manufacturing base of the region for producing solar energy equipment is also a long-run possibility.

IMPACTS OF NATIONAL ENERGY POLICY ON REGIONAL REGIONAL AUTO PRODUCTION

Efforts to increase the fuel efficiency of the American automobile are also of direct interest to the Great Lakes region. Because of the high regional concentration of automobile manufacturing and related industries, national policies that impact the demand for American automobiles have direct implications for regional employment and income. Taxes on cars with high fuel consumption can be expected to shift consumer demand towards more fuel efficient cars, either American or foreign made. To the extent that total demand for American-produced autos is affected, this portion of the transitional costs in adjusting to increasing energy scarcity and higher prices will fall disproportionately on the Great Lakes region (see Appendix A for detailed analysis).

RECOMMENDATIONS

Because energy availability and prices are crucial in the functioning of our highly technical economy, recommendations that focus specifically on the Great Lakes region will also involve other levels of government as well as the

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* Of particular interest is the development of a process for transforming organic waste materials (trimmings from forestry operations for example), using high pressures into a pelletized product with a BTU content comparable to medium-grade coal. This process has been developed by a company on the West Coast and produces a product which has a lower C.I.F. price/million BTU's than oil or natural gas. The other interesting aspect of this material is that it burns with little or no pollutants. Capital costs for constructing a 200-300 ton/day plant are low, making decentralized locations attractive. Given the abundant forest resources of the Great Lakes region, this technology holds many interesting possibilities. It also raises the possibility of increasing the economic feasibility of more intensive forest management on presently under-utilized areas.

** Includes Ohio, Indiana, Illinois, Michigan and Wisconsin.

private sector. The recommendations outlined below relate to a variety of actions which will influence energy development, fuel composition, and energy prices, both nationally and in the Great Lakes region. Because of the interdependence of energy systems, several of the recommendations relate to the posture of the Great Lakes on critical national issues rather than region-specific actions. Recommendations are organized according to actions which influence Federal policy, actions which are regional in scope, and those which are best handled at the state level.

Federal involvement in the energy field is significant, ranging from regulation of energy prices to support of research and development efforts.

1. Regional Posture on Federal Energy Price Regulation.

Present regulation of the well-head price of natural gas produced for interstate shipment encourages consumption and provides little incentive for exploration and production for interstate shipment. While higher prices of natural gas will naturally affect consumers in the Great Lakes region, it is in the region's long-run interest that natural gas be priced to reflect its scarcity value. Pricing to reflect the opportunity costs of natural gas would promote conservation efforts, substitutions to other forms of energy such as solar, innovations to increase the efficiency of energy use, and efforts to locate additional supplies. Whether rationalization of the energy pricing area involves ultimate deregulation, or pricing on the basis of the BTU value of gas regardless of where it is shipped, long-run certainty in regional supply would be enhanced. It is recommended that regional leaders support rationalization of the natural gas pricing by the Federal Government.

2. Federal Research and Development on Use of High-Sulfur Coal

The Federal government presently spends about $500 million on research related to the use of coal. It is important that the region understands how various dimensions of this research may affect use of its abundant reserves of high-sulfur coal. It is recommended that a study be conducted to synthesize existing research on the technical and economic constraints of using high-sulfur coal and the present state-of-the-art and research efforts for dealing with existing constraints.

Several potential energy problems have regional dimensions which may merit interstate cooperation and pooling of resources. These areas relate to energy development and the impacts of national energy policy on the regional economy.

3. Research on Shale Oil and Gas Development

Because of the vast physical potential of the shale underlying the Great Lakes region, it is in the region's interest to encourage acceleration of federal research on the development and commercialization of this resource. Pooling of regional funds to supplement present levels of federal support may also be possible. It is recommended that the states seek additional federal support for acceleration of shale oil and gas development.

4. Research and Planning on Oil and Gas Drilling in the Great Lakes

The small amounts of oil and gas in the Great Lakes are potential regional energy sources of considerable controversy. Because of the potential benefit to the region and the potential impacts on certain local areas, it may be useful to conduct a broad regional assessment of the possibilities and constraints of development of this resource. It is recommended that the merits of a multi-state study (primarily Ohio and Michigan) be explored.

5. Analysis of the Effects of Proposed National Energy Policy on the Great Lakes Region

Because of the dependence of this region's economy on the demand for automobiles, national efforts to increase auto fuel efficiency have major implications for the region. It is recommended that the auto-producing and supplier states undertake a broad examination of implications for the region of the transition to more fuel-efficient automobiles.

Some energy issues are best handled on a state-by-state basis, with interstate planning as appropriate.

6. State Planning for Energy Emergencies

Particularly in the area of natural gas supply, state economies are vulnerable to supply disruption. Although only Central Ohio experienced severe disruption during the extreme cold of early 1977, evaluation of contingency planning and methods for reducing the economic impacts of future weather-related shortages could be explored. Areas for expanded interstate cooperation in planning of storage and in exploration for new sources of gas are also subjects for consideration. It is recommended that an agenda of intra- and interstate topics be developed for consideration by the individual states as appropriate.

F. TRANSPORTATION AND DEVELOPMENT OF THE GREAT LAKES REGION

1. Enhancement of the Great Lakes/St. Lawrence Seaway system can make an important contribution to the region's economy. Extensive studies are available on the feasibility of season extension and water levels regulation.
2. Enhancing river commerce also is important to the region. The major issues here are cost recovery on water commerce and extension of the locking capacity at some points.
3. Rail deterioration and abandonment are major concerns, particularly to smaller towns and manufacturing centers.
4. Enhancement of air facilities and service are needed to help some urban centers develop their full economic potential.
5. Although the interstate system is virtually complete in the region, some areas, particularly the North, remain isolated. There are problems with the secondary road and bridge capacity in some areas.

The combination of low-cost transportation via the Ohio River, the Great Lakes and the Mississippi, and abundant resources spurred early development of the Great Lakes region. Major manufacturing and trade centers such as Cleveland, Detroit, Chicago, and Cincinnati owe their early development to access to water transportation and proximity to raw materials and product markets. Advent of the railroads granted interior locations the cheap transportation access necessary for manufacturing development. Development of auto and truck transportation and air travel have further dispersed the spatial location of economic activity in the Great Lakes region as in other regions of the nation.

Today the region is served by a complex intermodal system. This transportation system consists of several major airports as well as a national and international hub airport (Chicago); an intensively developed river navigation system; access to world shipping as well as domestic bulk commodity shipment via the St. Lawrence-Great Lakes system; extensive but deteriorating rail capacity; and a well-developed interstate highway system. These transportation facilities represent a major economic asset to the region and help to determine its comparative advantage. Some aspects of these various transportation systems, however, are also the source of potential constraints on long-run efforts to revitalize the region's economy.

The survey revealed a variety of perceptions on problems and potentials in all dimensions of the region's transportation systems. These perceptions can be summarized according to the four modes and include:

Water Transportation

- There is broad concern over the competitiveness of the Great Lakes/ St. Lawrence Seaway system. In particular, differences in the level

of federal subsidy to the system appears to increase the competitiveness of inland waterways relative to the Seaway for some commodities. Efforts to lower Great Lakes shipping cost through season extension and regulation are projects that have been considered. Larger sized vessels would create additional demand for new construction and channel deepening. Finally, concern over international relations that may exist could affect costs of shipping via the St. Lawrence.

- Concern over capacity constraints on the inland waterways (locks, channel depth, etc.) and efforts to begin implementing cost recovery of publicly financed infrastructure through user charges are continuing issues in the region.

Rail

- Concern was voiced over the deterioration of the region's rail infrastructure and the abandonment of rail service to smaller communities dependent on rail shipment of agricultural or locally produced goods.

Air

- Though the survey did not reveal explicit perceptions on airport development problems, the region does face major issues on whether to construct new regional airport facilities offshore in the Great Lakes.

Highway

- Concerns here focus on the issue of highway financing. In particular, the effects of gasoline conservation efforts on state gas tax revenues and at the same time, the need to make available the proceeds

from the collection of gas taxes for other modes of transportation were seen as region-wide highway-related problems.

The following section presents a brief overview of these perceived issues and makes some recommendations on ways that new regional policy initiatives could benefit from regional transportation development revitalization. These issues are discussed below:

1. Competitiveness of the Great Lakes/St. Lawrence Seaway System

Enhancement of this system is important to the region's economic viability for several reasons. The cost of shipment of bulk commodities is an important comparative advantage for the region in heavy manufacturing location and investment decisions. Costs of using the St. Lawrence system, for example, influence the costs of basic industries such as steel. Agricultural exports are another important commodity moving via the St. Lawrence. Lake water levels and the length of the shipping season are critical elements to industry and shipping in terms of how large winter inventories must be and how heavily vessels can be loaded and still navigate interconnecting waterways and harbors. Lake water levels also influence the need for dredging and the social costs associated with disposal of dredge spoils. Extensive technical studies have been conducted on the feasibility of further regulation of lake levels and the extension of the navigation season.*

Great Lakes Water Levels Regulation. In 1964, in view of record low water levels, the International Joint Commission, in response to requests of both

*1) Great Lakes Basin Framework Study, Appendix C9, Commercial Navigation, Great Lakes Basin Commission, Ann Arbor, 1975.

2) Great Lakes Basin Framework Study, Appendix 11, Levels and Flows, Great Lakes Basin Commission, Ann Arbor, 1975.

3) Regulation of Great Lakes Water Levels, A Summary Report, International Great Lakes Levels Board, 1974.

the U. S. and Canadian Governments, established the International Great Lakes Levels Board to study the problem of fluctuations and to make recommendations to the Commission. The Board concluded its work in 1974 at a period of historically high lake levels. A final report was released in 1976. The report concluded that at the present time, complete control of the lake water levels (Superior and Ontario are already partially regulated) would not produce benefits commensurate with costs. Further regulation of Lake Erie will have to be considered in light of environmental effects. Learning to live in harmony with the natural fluctuation of the Great Lakes appears to be the only presently viable alternative.

Navigation Season Extension. Ice formation in locks and interconnecting waterways and stormy winter weather generally limit the navigation season on the lake system to an eight- or nine-month period, depending on the severity of the winter. Extension of the shipping season would benefit the regional economy by reducing inventory costs, providing more efficient utilization of port and seaway facilities, reducing bulk commodity shipping costs through substitution of water for rail transit, and increasing the utilization of the freight fleet.

A variety of studies have been conducted to show the benefits and costs of navigation extension. They show benefit-cost ratios greater than one indicating the economic potential of extending the season. Many factors must

be considered in judging the merits of season extension,* however. These include the role of changing technology in transportation including containerization, the amount of general cargo that would move during the extended season and the environmental costs and human risks associated with winter navigation. Problems of navigating during winter weather (buoy location, channel demarcation, etc.) also present significant problems. Costs of insurance for increased risks are also significant.

Waterway Charges. Through user tolls, the St. Lawrence Seaway was intended to be self-liquidating, but in 1970 all U. S. interest costs were forgiven, eliminating a need for an increase in tolls. Transportation costs of the Seaway are also affected by subsidies from hydroelectric power production. Federal policy on financing of waterway systems is presently under debate and the outcome will affect the competitive position of water borne shipping, as well as the relative positions of the St. Lawrence and inland flow systems.

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*Examples include:

(1) Regional Economic Analysis Division, Bureau of Economic Analysis. Social and Economic Statistics Administration. U.S. Department of Commerce. "Economic Effects of an Extension of Great Lakes-St. Lawrence Shipping Season on General Cargo and Related Industries: A Summary Report." 1974. (Mimeographed).

(2) Schenker, Eric, et. al. The Economic Merits of Extending the St. Lawrence Seaway Navigation Season. Milwaukee: Center for Great Lakes Studies, University of Wisconsin-Milwaukee, 1972.

(3) Schenker, Eric, et. al. Extending the St. Lawrence Seaway Navigation Season - A Cost-Benefit Approach. Milwaukee: Center for Great Lakes Studies, University of Wisconsin-Milwaukee, 1972.

(4) U.S. Maritime Administration, U.S. Department of Commerce. The Great Lakes and St. Lawrence Seaway Study of Insurance Rates. Washington: U.S. Government Printing Office, 1972.

Changing Technology. Overseas shipping from the Great Lakes is also important to the Great Lakes regional economy. The movement to containerization in the mid-1960's has affected the competitiveness of the Great Lakes ports since physical constraints limit the size of containerized vessels that can enter the Great Lakes system.*

2. Inland Waterway Development and Financing

Development and financing of the region's river water transport system is the subject of public policy debate. Major issues relate to institution of user charges, the economic justification of increasing depths in some sections, the need and economic justification for expanding locking capacity, and the environmental costs of various development projects.

The U. S. inland waterway system is an integral part of the transportation infrastructure serving the mid-continent and coastal economies. As such, the barges and tows accommodate a vast array of bulk commodities and some general cargoes. The largest proportion by weight is bituminous coal and lignite followed by crude petroleum and petroleum-related products. Other major bulk commodities include grain and grain products, rafted logs, basic chemicals and products, crushed stone, limestone flux, and calcareous stone, and iron and steel products. The portion of the inland system serving the Great Lakes states include the Ohio, Upper Mississippi, and Illinois waterways. General factors influencing shipping costs on this system include barge and tow technology and scale which in turn is controlled by physical dimensions of locks and channel depths; by capacity of locks in terms of speed with which tows can be

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* An excellent analysis of technical and economic aspects of Great Lakes shipping is The Great Lakes Transportation System by Eric Schenker, Harold M. Mayer and Harry C. Brockel, University of Wisconsin Sea Grant College Program, Technical Report No. 230, Madison, Wisconsin, January 1976.

handled; by the number of locks in the system, and by operating costs such as labor, fuel, and tolls.

Public sector physical investments in this system involve both deepening of existing channels (presently at nine feet or greater in major sections of the system) and expanding dam and lock configuration or handling capacity of locks. Development and management of the system is the responsibility of the U. S. Army Corps of Engineers.

Private sector actions that will potentially affect inland shipping costs will probably come through coordination of services by the various modes and through development of containerization allowing combined service of inland water transport with rail and highway operations.*

While the inland waterway system serving the Great Lakes region will undergo periodic investment in upgrading and expanding of capacity, major large scale changes appear unlikely for several reasons. First, such projects as extensive deepening (to a 12 channel throughout) entail environmental costs that are probably unacceptable not to mention their economic feasibility. Second, rising construction costs have probably affected the short-term economic feasibility of some improvements. Finally, proposed changes in the financing of federal water resource projects may affect the tolls charged users, adding a cost to inland waterway shipping which, if passed, will influence growth in demand for water-borne shipping.

For the above reasons, improvement in the inland waterway system, while an important contribution to holding down real bulk transport costs, can only offer a gradual influence on the region's comparative economic advantage.

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* Charles W. Howe, Inland Waterway Transportation, Studies in Public and Private Management and Investment Decisions, Resources for the Future, Inc., Johns Hopkins Press, Baltimore, 1969.

3. Rail Deterioration and Abandonment

Railroads are the other large mover of bulk commodities, particularly in the land region. The problems of major segments of the railroad industry are well-known. They involve the complexity of regulatory constraints, differential subsidies between competing modes, management problems, and labor costs and work rules. As a consequence, return on investment has been affected, service has declined, and several bankruptcies have occurred.

Last year, Penn Central and five other bankrupt eastern railroads were combined into a government-aided entity, Consolidated Rail Corp. (CONRAIL). Implementation of this consolidation has and will mean abandonment of low traffic segments, primarily those serving rural small towns. Loss of rail service for these communities will mean higher cost truck transport and unfavorable impacts on agricultural storage businesses, as well as effects on transportation costs of other rail-dependent businesses.

The major issue for the region is what form of regulatory change and rate changes and Federal subsidy are necessary for private sector revitalization efforts and what are the reasonable alternatives for public/private sector initiatives. Redevelopment of the region's railroads will be crucial to expansion of coal production needed to meet the national energy situation and to long-term creation of a balanced, energy-efficient transportation system.

4. Regional Airport Expansion and Development

Location of major new airports is a subject of considerable controversy in some sections of the region. Two offshore sites (Chicago and Cleveland) have been proposed which would minimize the impacts of noise on residential areas but which will potentially cause other environmental problems. Growth of regional air travel will require solutions to over-taxed capacity at major airports and is likely to be a difficult problem to resolve with new land sites. Long-run land banking for expansion and strict land use controls will be necessary if major airport needs are to be met within environmentally tolerable limits.

5. Highway Financing and Sharing of Highway Revenues

Though mostly completed, the interstate system still has some links to be built. More important for the region is the ability to finance improvements and maintenance of existing secondary roads and to improve bridge capacity. National efforts to slow or reduce the growth of gasoline consumption will affect each state's ability to improve highway systems. Financing of alternate modes of transit from gas tax revenues is also an issue that the region must consider in efforts to create viable alternatives to the automobile in-urban transportation.

RECOMMENDATIONS

Because most transportation issues are integrally linked to Federal policy, the individual states should be in a position to evaluate their own and region-wide implications of proposed policy changes. Of particular concern should be the direct and indirect effect of federal capital and operating subsidies and federal regulation on intermodal competition, particularly as

it affects bulk commodity shipments. A major regional concern should be that federal trarsportation policy be as neutral as possible in terms of the cost competitiveness of alternate modes. While the region might benefit in the short run from the explicit subsidy of one mode over another, future changes in a given subsidy pattern can mean significant dislocation in industries grown dependent on the implicit or explicit subsidy.

Examination of Federal Regulatory Effects.

On the basis of the above, it is recommended that the states develop a broad-based position on impending federal regulatory changes affecting regional transportation.

Examination of Federal Financing.

Similarly, the region should support changes in federal financing of water-based transportation which is relatively neutral between systems in terms of total private sector cost of using the system. Further, the region should encourage examination of the effects of federal financing on the distribution of bulk shipments between competing modes.

While constrained by the extent of federal involvement in transportation policy, there are some things the states acting together can facilitate. One of these may be intercity and interstate rail transportation, particularly passenger service.

Interstate Rail Passenger Planning.

Because of the number of potential high-density traffic corridors in the region, the states should explore ways in which they can facilitate the upgrading of intra- and interstate rail passenger service. Examples may include renovation of downtown stations, state support for upgrading railbed or joint federal-state programs to expand passenger service. Such efforts could serve the additional purpose of creating semi-skilled employment opportunities for the urban unemployed.

C. WATER AND FUTURE DEVELOPMENT IN THE GREAT LAKES REGION

1. Overall, water is one of the region's greatest development assets, especially when compared to the West; however, some areas do have problems of overutilization and supply shortages. Others have severe pollution problems that prevent further development of water-using industries.
2. The region's costs of providing adequate waste treatment facilities are now higher and are projected to be higher than other parts of the United States on a per capita basis, yet it is presently receiving less per capita than other areas from federal grants for sewerage treatment facilities.

WATER RESOURCES

At a time when water availability is emerging as a major constraint on development in some sections of the country, the Great Lakes region is blessed with the largest fresh water resource in the world. The Great Lakes and the Ohio and Mississippi River systems represent natural resources of tremendous economic and environmental value to this region.

In the early stages of settlement, they served as major transportation routes, water supply, and provided food for early fisheries. Today these water resources service a complex set of demands, some in direct conflict with each other. Transportation, industrial and municipal water supply, and waste disposal, sport and commercial fishing, a variety of outdoor recreation activities, and aesthetic values lending significant character to the region represent the variety of demands on these resources. Balancing trade-offs among competing uses and managing water resources for long-term benefit represent major challenges to the states in this region.

Although not explicitly articulated in any of the interviews, many conflicts between economic development and environmental interests hinge on present and future trade-offs in use of water and water-land related resources. Trade-offs include:

- Waste disposal versus various forms of recreation and preservation of fish and wildlife habitat.
- Maintenance of navigation depths versus fishery habitat or scenic characteristics (i.e., the issue of dredging and spoil disposal).
- Private sector shoreline development versus preservation for open space and public access.
- Industrial and transportation development versus preservation of scenic and amenity values.

Policies and planning for managing water and water-land related resources must provide mechanisms for consideration and protection of public values and common property resources while minimizing regulatory and procedural costs and uncertainty which stifle regional investment. In addition to special industrial effluent limitations, stream water quality standards and area-wide waste water management planning (Section 208 plans) called for in the 1972 Water Pollution Control Act Amendments, some subregions also must participate in coastal zone management planning, HUD 701 planning, Overall Economic Development District Program planning, in addition to Framework Level River Basin planning.

Although the overlapping planning, fiscal and regulatory functions of various federal/state programs affect water resource planning throughout the nation, the intensity of water resource use and economic development in major areas of the Great Lakes states exacerbates the problems of balancing conflicting uses through overlapping planning and regulatory efforts. The international boundary on three of the four Great Lakes in the region adds to the complexity of water resource planning and management.

While the survey revealed various perceptions relative to the above water resources issues, two major concerns stood out:

- Concern over water supply availability in some localities;
- Concern over water quality and the level of federal support being provided for waste water treatment.

1. Water Supply

On the average, the six Great Lakes states are abundantly endowed with water supply. As shown in Figure 1, the region is drained by three major water systems:

the Ohio, Upper Mississippi, and Great Lakes Basins. Estimated freshwater consumption is small relative to mean annual runoff in all these basins.* Withdrawals, on the other hand, are estimated at 62% of mean annual runoff in the Great Lakes Basin compared to an average of 30% nationally. The rates for the Ohio and Upper Mississippi Basins are estimated at 29% and 25%, respectively. While specific meaning cannot be ascribed to these average figures, the withdrawal rate for the Great Lakes Basin is indicative of the intensity of water use in the region. This is also one of the highest ratios of withdrawal in the U.S. with the exception of the Western basins. A high withdrawal rate implies the need for extensive waste water treatment and the potential for regional water quality problems.

In the Great Lakes Basin, the predominantly rural northern areas have abundant supplies of good quality water. Water availability and quality in the upper part of the region are anticipated to meet all projected long-term growth in consumption and withdrawal. Major problems, however, exist in the highly urban southern portion of the region, stretching from Milwaukee to east of Cleveland.** Water use in some portions of this area is in excess of that available on a long-term basis from local ground and surface sources. In many areas withdrawal use exceeds available supply from interior streams. The difference is made up by withdrawals from the lakes which in turn draw their water from the entire Great Lakes Basin. With continuing economic and population growth, it is expected that more of the existing interior water systems will supplement their stream sources by drawing from the Great Lakes. Although ground water sources may be a problem in some locations, ground water sources probably could be more effectively developed and utilized.

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* The Nation's Water Resources, United States Water Resources Council, Washington, D.C., 1968.

** Ibid.

Figure 1. U.S. Water Resources Regions

STREAMFLOW (Billion gallons per day)

Region	Mean Annual Run-off[2]	Fresh Water Consumptive Use 1970[1]	Withdrawals 1970[1]
North Atlantic	163	1.8	55
South-Atlantic-Gulf	197	3.3	35
Great Lakes	63.2	1.2	39
Ohio	125	.9	36
Tennessee	41.5	.24	7.9
Upper Mississippi	64.6	.8	16
Lower Mississippi	48.4	3.6	13
Souris-Red-Rainy	6.17	.07	.3
Missouri	54.1	12.0	24
Arkansas-White-Red	95.8	6.8	12
Texas-Gulf	39.1	6.2	21
Rio Grande	4.9	3.3	6.3
Upper Colorado	13.45	4.1	8.1
Lower Colorado	3.19	5.0	7.2
Great Basin	5.89	3.2	6.7
Columbia-North Pacific	210	11.0	30
California	65.1	22.0	48
Co-terminous United States	1,201	87	365

Sources: [1]Murray, C. Richard & Reeves, E. Bodette (1972). Estimated Use of Water in the U.S. in 1970, Geological Survey Circular 676. U.S. Geological Survey, Washington, D.C., p. 17.

[2]U.S. Water Resources Council (1968). The Nation's Water Resources. U.S. Government Printing Office, Washington, D.C., p. 3-2-6.

In the Ohio Basin, abundant surface runoff and extensive ground aquifers should provide for anticipated future needs, assuming sound management. There are local imbalances, however, in some of the smaller tributaries with summer low flows some years and flooding in others. Water quality problems do exist in this Basin, including acid mine drainage and heavy sediment loads in areas where extensive cultivation or strip mining takes place.*

In the Upper Mississippi Basin, which drains major portions of Illinois, Wisconsin and Minnesota, surface water supplies are considered presently adequate but subject to increasing intensity of use. Ground water is abundant and relatively undeveloped, though highly pumped urban areas are experiencing a gradual lowering of water tables. A major concern in the region is the maintenance of adequate water quality at specific locations. As with the Ohio Basin, total availability is less of a problem than is timing of supplies (spring flooding and late summer low flows) and local shortages requiring expansion of distribution systems. The major future water supply problem for this Basin will be providing water of adequate quality in the right place at the right time.

The major challenges in all three basins will be to increase the use of recycling and closed system technologies in order to reduce growth in withdrawal use of water. Improving land use practice including watershed management and urban runoff control will also be necessary factors in enhancing long-run water supply. The most critical element, however, will be to increase levels of industrial and municipal waste water treatment in order that the region's water supply can support both increasing water withdrawals and serve major environmental and aesthetic objectives.

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* The Nation's Water Resources, United States Water Resources Council, Washington, D.C., 1968.

2. Water Quality Control Requirements, Costs, and Federal Support

Large urban population concentrations, agricultural development, and the older heavy manufacturing economic base have contributed to significant water quality deterioration in several of the regional water bodies. Lake Erie and many of its tributaries are major examples of degraded water quality in the region. Other problem areas include Saginaw Bay on Lake Huron, Green Bay on Lake Michigan, and the southern end of Lake Michigan.* Specific reaches of many of the region's rivers and inshore areas along the Great Lakes suffer degraded water quality in varying degrees. Open waters of all of the lakes, however, are considered of good to excellent quality, with the exception of Lake Erie.

Because of the significant water quality problems in the region, projected total per capita waste water treatment costs are above the average for the rest of the nation, as shown in Table 1. Per capita costs based on the 1975 population were estimated to be $544, 31 percent higher than for the U.S. as a whole. A majority of the difference in costs between the Great Lakes region and the rest of the nation is attributable to control costs for combined sewer overflows. Netting out this category, Great Lakes' estimated per capita costs for the 1975 population would be 8 percent higher than the U.S. average.

Table 2 shows 1976 levels of federal grants (actual outlays to state and local government) to the Great Lakes states for waste water treatment and basic water supply. The Great Lakes region received an average 1976 per capita grant for waste water and water supply purposes of $11.91 compared to an average of $12.67 for the U.S. as a whole and $12.88 for the U.S., excluding the Great Lakes. Thus the rest of the nation (U.S.-Great Lakes) received 8 percent more per capita in grants for water supply and waste water treatment in 1976 than the Great Lakes.

* A detailed inventory of water quality problems in the Great Lakes Basin is contained in Appendix 7, Water Quality, Great Lakes Basin Framework Study, Great Lakes Basin Commission, Ann Arbor, Michigan. Appendixes from the framework studies of the other Basin Commissions provide details for the Ohio and Upper Mississippi River Basins.

TABLE 1

Projected Costs for Construction of Publicly Owned
Owned Waste Water Treatment Facilities
(1976 dollars)

	Per Capita Total Costs[1]		Per Capita Costs of Control of Combined Sewer Overflows[2]		Per Capita Costs of Major Rehabilitation of Sewers[3]	
	Population					
	1975	1990	1975	1990	1975	1990
Great Lakes	$544	$456	$164	$138	$27	$22
U.S. Excluding Great Lakes	$416	$348	$ 63	$ 53	$25	$21

Source: Cost Estimates for Construction of Publicly Owned Wastewater Treatment Facilities, 1976 Needs Survey United States Environmental Protection Agency, Washington D.C. February, 1977.

[1] Includes expenditures for secondary treatment, higher than secondary treatment, correction of infiltration/inflow, major rehabilitation of sewers, new collector sewers, new interceptor sewers, and control of combined sewer overflow.

[2] Costs reported for this category were for facilities to prevent and/or control periodic bypassing of untreated wastes from combined sewers to achieve water quality objectives and which are eligible for Federal funding.

[3] Major rehabilitation is considered to be extensive repair of existing sewers beyond the scope of normal maintenance programs, when sewers are collapsing or structurally unsound.

TABLE 2

1976 FEDERAL GRANTS TO GREAT LAKES STATES
FOR WASTE AND SEWAGE PURPOSES
(1,000'S OF $)

	Dept. of Ag. Rural Water & Waste Disposal	EPA Const. of Waste Treatment Facil.	EPA Abatement & Control	HUD Basic Water & Sewer Facil.	TOTAL
Illinois	$ 2,459	$ 108,758	$ 6,176	$ 1,644	$ 119,037
Indiana	3,762	50,952	3,023	900	58,637
Michigan	1,154	123,812	4,060	955	129,981
Minnesota	1,311	57,415	1,751	228	60,705
Ohio	1,735	104,867	6,901	3,867	117,370
Wisconsin	2,939	41,732	3,557	606	48,834
Total G.L.	13,360	487,536	25,468	8,200	534,564
Total U.S.	88,710	2,428,569	134,357	67,299	2,718,935
G.L./U.S.	15.1%	20.1%	19.0%	12.2%	19.7%
Per Capita G.L.	$ 0.30	$ 10.86	$ 0.57	$ 0.18	$ 11.91
Per Capita U.S.	0.41	11.31	0.63	0.31	12.67
Per Capita U.S./G.L.	0.44	11.43	0.64	0.35	12.88

Source: Federal Aid to States, Fiscal Year 1976 and Transition Quarter, Department of the Treasury.

These figures are suggestive of an imbalance between estimated regional clean-up requirements and the level of federal support for meeting the requirements. Conclusions, however, should not be drawn until federal outlays prior to 1976 and future authority for waste water treatment grants to the region are examined.

RECOMMENDATIONS

1. Review of Existing Studies

New studies should not be needed here because the water resources field has seen extensive studies (University Sea Grant programs, River Basin Commission Framework studies, Office of Water Resources Research grants, University Water Research Institute studies, not to mention a number of federal and state agency studies). Further work in this area for the Great Lakes region should be made only after careful consideration of present and past efforts. Multi-state efforts to synthesize and implement recommendations from previous planning efforts should take precedence over any new, large-scale regional studies.

2. Evaluation of Waste Water Treatment Assistance

As suggested by the data in Tables 1 and 2, the Great Lakes states received lower than average federal assistance for waste water treatment in 1976, but are projected to have above average treatment requirements. Before individual states begin efforts to secure additional federal support for waste water treatment, it is recommended that the total level of federal support prior to 1976 as well as budget authority for regional grants be determined. If the region is below the national average based on past and projected federal outlays, it is recommended that state and local actions be initiated to secure grants in proportion to EPA estimated needs.

H. AGRICULTURE AND RURAL COMMUNITY DEVELOPMENT

1. While other sectors of the economy overshadow agriculture in the Great Lakes economy, farming employs over a million of the region's people directly. More significantly, agri-business remains one of the cornerstones of the region's economy; thus, its performance will continue to be one of the important components of the region's overall economic health.

2. Like farmers and ranchers everywhere, the agricultural community in the Great Lakes is caught in a cost-price squeeze. Prices for all of the inputs to a farming operation--land, machinery, seed, fertilizer, and labor--continue to rise. Prices for farm products, however, not only are not keeping pace with costs, they also vary substantially from year to year.

3. Changes in the buying and selling patterns for agriculture have left many rural farm market communities behind as farmers do their buying both for family and farm operations in the larger cities.

The agricultural issues affecting the region are basically the same as those impacting all agricultural regions of the nation. The issues relate directly to the causes and consequences of the continuing cost-price squeeze facing the region's farmers.

The survey revealed general perceptions on the problems facing regional agriculture. These were focused on the rising costs of energy, fertilizer, transportation, and land on the one hand, and the stable or falling prices of farm commodities on the other.

1. AGRICULTURE IN THE REGIONAL ECONOMY

Agriculture has been one of the cornerstones of the region from the beginning of its modern development. Although farming directly accounted for only about 3.6% of the total regional income in 1975, (Table 1) one million people earned their livelihood directly from farm operations (Table 2) and, more significantly, the region's agriculture is linked to many other manufacturing, trade, and service sectors. As shown in Table 3 , the region accounts for about 22 percent of national farm income based on about 12 percent of the total U.S. acreage (Table 4).

2. THE COST-PRICE SQUEEZE AND ITS CONSEQUENCES

The cost-price squeeze in agriculture is the result of production factor prices rising in the face of stable or fluctuating commodity prices. The problems are long-term in nature and have been exacerbated by recent dramatic energy price increases, inflation, the effects of two back-to-back recessions, and management of international trade by the federal government.

Agriculture costs are being forced up by a variety of sources. Nationwide, rising energy costs raise the price of fuel for equipment operation and drying of crops. Indirectly, rising energy prices raise the cost of fertilizer and other farm inputs. In the region, changing transportation structure (i.e., abandonment of rail lines) raises the real cost of transporting crops. Rising

TABLE 1.

PERSONAL INCOME FROM AGRICULTURAL ACTIVITIES
($ million)

	(1) Farm		(2) Food & kindred products		(3) Agricultural services		(4) (1)+(2)+(3)		(5) Total personal income		(1) as percent of (5)		(2) as percent of (5)		(3) as percent of (5)		(4) as percent of (5)	
	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975
Illinois	2143	2376	1447	1636	109	118	3699	4130	51026	58349	4.2	4.1	2.8	2.8	0.2	0.2	7.2	7.1
Indiana	1398	1265	403	469	37	45	1838	1779	21793	23715	6.4	5.3	1.8	2.0	0.2	0.2	8.4	7.5
Michigan	586	585	573	680	75	88	1234	1353	40885	43733	1.4	1.3	1.4	1.6	0.2	0.2	3.0	3.1
Minnesota	2369	1476	532	614	40	46	2941	2136	16132	17655	14.7	8.4	3.4	3.5	0.2	0.3	18.2	12.1
Ohio	766	1011	807	936	98	114	1671	2061	44335	49063	1.7	2.1	1.8	1.9	0.2	0.2	3.8	4.2
Wisconsin	938	876	618	782	47	54	1603	1712	17026	19485	5.5	4.5	3.6	4.0	0.3	0.3	9.4	8.8
Region	8200	7589	4380	5118	406	465	12986	13172	191197	212000	4.3	3.6	2.3	2.4	0.2	0.2	6.8	6.2
U.S.	40803	33878	16962	19878	2460	2958	60225	56714	835603	950837	4.9	3.6	2.0	2.1	0.3	0.3	7.2	6.0
Region as percent of U.S.	20.1	22.4	25.8	25.7	16.5	15.7	21.6	23.2	22.9	22.3	-	-	-	-	-	-	-	-

Source: Survey of Current Business, August 1976.

TABLE 2.

FARM EMPLOYMENT, 1975
(1000 Persons)

Illinois	163
Indiana	134
Michigan	110
Minnesota	200
Ohio	160
Wisconsin	199
	966
U.S.	4,389
Percent of U.S.	22%

Source: Agricultural Statistics, 1976, U.S. Dept. of Agriculture, pg. 131

TABLE 3.

FARM INCOME - CASH RECEIPTS, 1973 to 1975, and PRINCIPAL COMMODITIES IN ORDER OF CASH RECEIPTS, 1975, BY STATES

(In millions of dollars. Cattle include calves and sheep include lambs.)

STATE	1973	1974	1975 (Prel.)	Principal commodities in order of marketing receipts, 1975
Illinois	4,882	5,693	5,405	Corn, soybeans, hogs, cattle.
Indiana	2,932	3,097	3,996	Corn, hogs, soybeans, cattle.
Michigan	1,500	1,654	1,656	Milk, corn, cattle, wheat.
Minnesota	4,008	4,446	3,855	Milk, cattle, corn, hogs.
Ohio	2,099	2,539	2,759	Soybeans, corn, milk, cattle.
Wisconsin	2,280	2,464	2,652	Milk, cattle, hogs, corn.
Great Lakes	17,701	17,893	19,323	
U. S.	87,068	92,648	89,563	Cattle, dairy, corn, hogs.
Per cent of U.S.	20%	21%	22%	

TABLE 4.

FARMS - ACREAGE BY STATES
(Millions of Acres)

	1970	1976 (preliminary)
Illinois	30	29
Indiana	18	18
Michigan	13	12
Minnesota	32	31
Ohio	17	17
Wisconsin	20	19
	130	126
U.S.	1,121	1,085
Percent of U.S.	12%	12%

Source: Statistical Abstract, 176, p. 640.

value of land (both on the urban fringe and in prime producing areas) adds to the tax burden on farm operations. Coupled with the tremendous production capacity and price and income inelastic nature of demand for agricultural products, prices received often have not covered production costs.

The consequences of the long-term cost-price relationships have been declining farm populations, increasing farm size to capture economies of scale, corresponding changes in the ownership structure of American farms, and changes in the marketing and purchasing patterns affecting rural communities.

From a policy perspective, regional agricultural problems are intertwined with national and international events. In the long run, the U. S. has a major comparative advantage in agriculture. Growing world demand should mean healthy and growing markets for the region's and the nation's farm products. As a policy matter, protection of the family farm may take precedence over trends toward the economies of scale of large operations. Rising relative energy prices, while seemingly contributing to the trend toward larger farms, could also have a reverse effect benefitting the family farm. Rising energy prices may make labor-intensive operations more attractive for some types of crops, thus increasing the economic viability of smaller scale farming.

3. RURAL COMMUNITIES

The health of agriculture must be separated from the health of rural or non-metropolitan communities and vice-versa. It is possible for rural communities to prosper while agriculture suffers. It is possible for rural communities to die while farmers prosper. Agriculture is an increasingly metropolitan business, with its buying and selling being carried out in the larger cities rather than in the older farm-market communities. The small towns have been bypassed and frequently they have been found to be suffering a decline in their trade and service businesses.

On the other hand, non-agricultural businesses, particularly manufacturing, are increasingly locating outside of the major metropolitan areas. In the region,

more rural people (nearly 1.1 million) work in manufacturing than in agriculture. The policies and programs cited elsewhere in this report are as important to the growth of business enterprise in these non-metropolitan communities as they are to the growth of center city business.

RECOMMENDATIONS

Generally speaking, state governments have had few agricultural assistance programs. The federal policies dominate price and production structures. The region's major concern, therefore, should be to develop a better knowledge about how these policies affect agriculture in the region. It needs to utilize the extensive knowledge it already has in the agricultural extension program.

Two fields of state policy can have an important impact on agriculture--land use policies and inheritance taxes. Both of these have a direct impact on the viability of farming operations, particularly family farms.

1. Land Prices

Land prices have soared in the region, not only due to the pressures of alternative urban uses, but also because of its intrinsic farming value. Much of the land in this region is prime agricultural land. It is more productive per acre. It is close to markets and processing plants. The nation and the region have not yet reached the point at which agricultural land is scarce. Some prime land still lies fallow. But it is estimated that within ten years, meeting world food needs will utilize all of the prime land and force the reutilization of marginal agricultural lands in the region. While the number of people working on farms will not increase, because of increasing mechanization in agricultural operations, agriculture still represents one of the great growth opportunities for the region in the coming decade. It has been estimated that the American corn belt, much of which is in the region, could feed the world (if people ate only corn and corn was not fed to animals). One of the region's major interests, therefore,

is to protect its agricultural land. Land use laws should be examined with this in mind. Several options are available for protecting such lands, including real estate tax relief and the purchase of development rights. All of these are expensive in the short run but studies have demonstrated (see Suffolk County, New York) that conversion of agricultural land to single-family homes costs local governments more than the development returns in local tax revenues.

2. Inheritance Tax

As farm values have increased tremendously relative to their income growth because of the increased value of the land, equipment and buildings, transferring a family farm from one generation to another has become prohibitive in many cases because of inheritance taxes. Federal law was recently modified to ease the burden of such transfers. If farms are to be kept in family rather than corporate hands, special provision must be made for the transfer of such properties. Lower state inheritance tax rates have been suggested. Provision for extended payment under existing rates would also help. Furthermore, purchase of development rights in urbanizing areas would reduce land costs for farm purposes and make it more feasible to transfer farms from one generation to another.

3. Industrial Development for Non-Metropolitan Communities

Former farm market communities obviously still face the problem of diversifying their economic base. The interstate highway system and much smaller farm populations have enabled larger towns and cities to capture the markets once served by these communities. The trend in the location of manufacturing facilities outside metropolitan areas works in favor of these small communities. Indeed, attracting manufacturing plants to these smaller towns will be an easier task in the future than center city redevelopment. There are only two obstacles facing smaller towns. One, there are many more smaller towns across the country chasing industries than there are industries looking for small town locations. Not every small town is a good prospect for industrial location. Community facilities, particularly

water and sewerage services, are needed in many cases. Funds for these facilities are scarce. States will need to set priorities to maximize the effectiveness of available funds.

Second, the growth now being enjoyed by non-metropolitan areas across the country is in large measure dependent upon cheap automobile transportation and truck transportation. A rapid increase in gasoline prices would work a very severe hardship on rural communities and rural commuters. Developing and carrying out plans for rural mass transportation systems is, therefore, another way in which state governments can assist rural communities. Considerable experimentation and cost-benefit studies have been carried out with federal funds over the past fifteen years. (This research is cited in the bibliography.)

I. FEDERAL FUNDS IN THE GREAT LAKES STATES

Perhaps no other issue has received as much attention recently as that of whether the Manufacturing Belt regions or others are being equitably treated in the distribution of federal tax funds relative to what they pay. Statistics published popularly on this issue have been gross and have failed to differentiate among Social Security payments to people who work in Michigan and retire in Florida and grants for various kinds of municipal facilities. The central issue for the Great Lakes states is that, while it has been federal policy to bring about greater social and economic equity among regions, there now appears to be some question as to whether the changing position of the Great Lakes region in the national economy prompts a new look at the equity of present federal expenditure policy.

In terms of federal aid to state and local governments, which accounts for 17 percent of federal expenditures and is growing, some changes have taken place over the 1969-1974 period. Most dramatic has been a shift in the flow of aid toward the Northeast region (Middle Atlantic and New England regions). To a certain degree, then, it can be said that the provision of more benefits to the Northeast, which had lower per capita income and population growth and higher than average rates of unemployment, has had a counter-cyclical effect over the time period. The Great Lakes, however, still ranks last among the major regions in its receipt of federal aid to state and local government. The situation has changed somewhat. In 1969, the Great Lakes region paid 22 percent of national personal income taxes and received 15 percent of federal grants to state and local governments; by 1974, the region paid 21 percent in taxes and received

16 percent of the aid.* While this represents a net gain of two "percentage points," the Great Lakes region still received only 79 percent of 1974 per capita federal aid ($192 versus $243).

Table 1 shows the distribution of federal aid among state and local governments as a percent of general revenue, per $1,000 of personal income, and per capita for 1970 and 1975. The Great Lakes states received the lowest amounts on all three measures. In terms of percent change in per capita amounts, the Great Lakes states fared better, but this merely reflects the much lower base figures. When public welfare grants are removed (Table 2) there is less variation among regions. Tables 4 through 12 are included to indicate the individual state figures for each of the three measures for the nine basic grant categories.

Generally, although the overall differences among regions declined from 1970 to 1975, in 1975 the Great Lakes was still below the national average when examined on either a regional basis or when examined state-by-state for each of the categories.

A final state and regional comparison is given for 'resource' versus 'transfer' grants. Although first-round regional impacts may be similar for both resource and transfer grants, resource grants may, in the long run, make a region more attractive as they add to the infrastructure and human skill level of an area. A rough estimate of the disbursement of resource grants in 1975 was obtained by subtracting grants which had a large transfer component from total grants. On this basis the fraction of resource grants was lowest in the Northeast (Table 3). However, on a per capita basis, the Great Lakes Region was lowest. On both these measures the South and West received a higher fraction of resource grants.

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* Changing Patterns of Federal Aid to State and Local Governments, General Accounting Office, July 1977.

TABLE 1.

The Distribution of Total Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	15.0	21.5	21.44	33.75	97.46	217.40	123.1
Maine	20.8	29.1	37.66	60.87	113.16	276.00	143.9
Massachusetts	18.6	21.3	31.50	43.61	125.83	249.86	98.6
New Hampshire	19.6	24.3	29.00	42.89	97.81	209.47	114.1
New Jersey	14.3	19.0	20.45	32.79	86.46	205.20	137.3
New York	14.6	20.4	29.07	50.95	130.04	313.60	141.2
Pennsylvania	20.3	23.4	31.10	41.85	113.89	228.11	100.3
Rhode Island	23.1	25.9	37.75	49.72	139.67	268.52	92.2
Vermont	24.0	27.0	54.07	72.38	173.27	327.30	89.0
MIDWEST							
Illinois	13.0	18.6	20.08	32.08	85.53	199.77	133.5
Indiana	12.9	16.7	18.67	29.16	67.81	151.77	123.7
Iowa	13.6	18.9	24.76	36.88	86.49	193.67	123.9
Kansas	17.0	20.2	28.61	35.65	103.00	196.33	90.6
Michigan	13.0	20.4	21.96	39.49	86.67	230.80	166.5
Minnesota	15.7	18.5	30.29	42.39	107.06	230.53	115.3
Missouri	20.5	22.7	31.21	37.78	107.34	190.80	77.8
Nebraska	14.2	22.2	24.81	41.53	87.45	218.79	150.2
North Dakota	21.0	22.7	47.37	48.04	141.95	269.05	84.5
Ohio	16.1	19.1	22.13	30.18	83.41	166.19	99.3
South Dakota	23.9	31.0	51.97	66.74	135.68	312.20	100.5
Wisconsin	12.0	18.1	23.98	38.39	83.46	199.63	139.2
SOUTH							
Alabama	30.4	27.4	57.63	54.41	152.01	226.96	49.3
Arkansas	31.6	31.8	55.38	59.04	142.26	241.67	69.8
Delaware	13.5	17.3	23.04	33.26	93.27	207.63	122.6
D. C.	56.2	51.7	107.52	141.87	535.89	1009.12	88.3
Florida	14.2	17.9	22.35	30.09	75.03	157.77	110.3
Georgia	23.1	25.5	38.85	50.83	120.65	239.35	98.4
Kentucky	27.9	27.6	49.62	56.14	141.84	246.50	73.8
Louisiana	24.8	23.4	50.61	53.33	144.65	232.51	60.7
Maryland	14.4	20.6	25.76	39.69	100.72	235.62	33.9
Mississippi	35.9	31.7	78.92	72.18	186.31	271.94	46.6
North Carolina	21.1	22.8	33.94	41.96	99.78	192.59	93.0
Oklahoma	27.4	29.1	51.60	57.53	157.78	263.24	66.8
South Carolina	24.3	24.8	39.62	47.88	107.33	203.45	90.0
Tennessee	26.2	26.7	43.53	48.47	124.12	217.46	75.2
Texas	20.2	20.7	31.64	26.82	103.01	179.79	74.5
Virginia	19.5	21.8	30.16	38.33	100.19	202.20	101.8
West Virginia	32.9	32.6	64.14	70.44	174.14	305.86	75.6
WEST							
Alaska	9.2	32.3	92.15	109.44	383.87	739.94	92.8
Arizona	20.2	20.3	41.54	41.91	133.84	208.01	55.4
California	17.6	17.7	35.95	39.09	150.27	232.73	54.9
Colorado	19.2	21.4	37.29	43.72	127.89	237.50	85.7
Hawaii	18.2	19.9	40.39	48.34	160.50	285.29	77.8
Idaho	23.6	27.6	44.95	53.87	133.65	258.10	93.1
Montana	28.6	27.4	62.58	63.30	195.23	308.29	57.9
Nevada	18.5	18.2	37.72	40.34	157.11	234.89	49.5
New Mexico	30.1	31.6	76.00	86.02	215.37	348.13	61.6
Oregon	21.4	22.1	41.04	50.15	142.49	262.45	84.2
Utah	25.3	29.7	99.91	56.05	164.16	243.87	48.6
Washington	16.7	19.3	30.59	40.21	117.47	225.20	91.7
Wyoming	28.1	25.5	77.81	68.19	251.44	353.71	40.7
ALL STATES	18.5	21.8	32.67	43.18	119.32	233.31	95.2

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 2.

THE DISTRIBUTION OF NET OF PUBLIC WELFARE GRANTS BY STATE FOR 1970 AND 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	9.3	13.8	13.30	21.76	60.46	139.83	131
Maine	11.6	15.9	21.00	33.15	63.11	150.45	138
Massachusetts	9.4	12.0	15.99	24.70	63.88	141.51	122
New Hampshire	14.8	16.4	21.81	28.97	73.57	141.48	92
New Jersey	9.1	11.0	12.98	18.95	54.86	118.60	116
New York	6.5	10.2	12.92	25.51	57.79	157.01	172
Pennsylvania	12.4	14.3	18.94	25.59	69.38	139.46	101
Rhode Island	13.0	14.6	21.35	28.10	79.00	151.76	92
Vermont	16.1	16.9	36.24	45.38	116.13	205.32	77
MIDWEST							
Illinois	7.5	10.0	11.53	17.19	49.11	107.03	113
Indiana	9.6	11.8	13.89	20.59	50.47	107.12	112
Iowa	8.6	13.3	15.74	25.89	54.98	135.95	147
Kansas	10.9	13.8	18.26	24.44	65.73	134.60	105
Michigan	7.6	11.5	12.78	22.25	50.42	130.06	158
Minnesota	9.2	10.5	17.83	24.08	63.01	130.93	108
Missouri	12.3	16.1	18.65	26.88	64.14	135.76	112
Nebraska	9.0	15.6	15.78	29.16	55.63	153.60	176
North Dakota	13.3	16.4	29.86	34.67	99.48	194.19	117
Ohio	10.5	12.5	14.52	19.74	54.72	108.68	99
South Dakota	17.5	23.2	38.06	49.87	114.02	233.27	105
Wisconsin	5.9	9.0	11.89	19.19	41.39	99.81	141
SOUTH							
Alabama	17.4	17.0	32.89	33.74	87.06	140.73	62
Arkansas	17.5	20.5	30.71	38.14	78.38	156.07	98
Delaware	9.3	11.8	15.91	22.60	64.42	141.08	119
D.C.	49.4	50.6	94.56	112.98	471.29	803.63	71
Florida	8.6	11.5	13.74	19.30	45.32	101.20	123
Georgia	12.0	14.7	20.23	29.27	62.83	137.84	119
Kentucky	16.6	17.2	29.57	35.06	84.38	153.94	82
Louisiana	12.2	15.5	24.97	35.23	71.36	153.62	115
Maryland	9.2	14.4	15.81	27.67	61.83	164.24	116
Mississippi	19.8	21.8	43.48	49.63	102.63	189.98	82
North Carolina	12.9	14.6	20.60	26.93	60.92	123.59	103
Oklahoma	14.1	19.1	26.48	37.79	80.97	127.91	114
South Carolina	14.7	16.6	23.52	32.11	63.71	136.79	115
Tennessee	16.3	17.9	27.10	32.47	77.27	145.67	89
Texas	12.0	13.0	18.83	23.09	61.31	112.61	84
Virginia	14.1	14.8	21.77	26.06	72.30	137.45	90
West Virginia	22.1	25.4	43.04	54.91	116.87	238.44	104
WEST							
Alaska	8.1	29.1	81.53	98.70	339.62	667.31	96
Arizona	15.7	17.1	32.40	35.22	104.40	174.79	67
California	7.6	10.0	15.63	22.16	65.33	131.96	102
Colorado	11.6	14.9	22.45	30.51	122.80	165.73	35
Hawaii	13.8	14.2	30.52	34.45	121.28	203.30	68
Idaho	18.8	20.7	33.84	40.39	100.63	193.49	92
Montana	23.4	21.5	50.95	49.09	159.47	239.08	50
Nevada	15.0	14.2	30.61	31.39	127.48	182.76	43
New Mexico	21.7	23.8	54.82	64.87	155.34	262.53	69
Oregon	15.8	15.4	30.38	34.87	105.49	182.48	73
Utah	18.9	19.5	41.39	42.62	122.40	185.46	52
Washington	10.0	12.9	18.27	26.87	70.17	150.49	114
Wyoming	24.9	22.6	68.99	60.37	222.99	313.14	40
ALL STATES	10.8	13.6	19.03	26.90	69.62	145.32	109

Source: Academy for Contemporary Problems, staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 3.

RESOURCE GRANTS, 1975

	Resource Grants as a Percentage of Total Grants	Resource Grants per Capita (dollars)
Northeast	59	153
North Central	64	126
South	70	154
West	66	162
Six Great Lakes States	61	119
Illinois	53	116
Indiana	72	110
Michigan	56	131
Minnesota	60	133
Ohio	69	115
Wisconsin	52	108

Since federal aid goes not only to states but to local jurisdictions as well, a related question is whether there are differences among regions in the per capita aid received by similar kinds of local jurisdictions. Most discussions of state and federal aid to local governments use data based on Bureau of Census publications. These data, however, do not differentiate between grants that originate at the state level and grants that originate at the federal level but are "passed-through" state governments to local governments. Both components are classified as "state aid". If an estimate of actual federal aid to localities is desired, the census classification "federal aid" is an underestimate to the extent that the"pass-through" amount is neglected. Depending on the magnitude of the "pass-through" amount, intergovernmental aid flows may be considerably different than the published data. In a recent study, the ACIR has attempted to estimate the "pass-through" component for each state.* The data presented in Table 13 reflects federal aid to localities adjusted for the "pass-through" element.**

The table illustrates that, with the exception of the Western region, central cities received more aid than their suburbs in both 1970 and 1975, and by 1975, central city grants for all regions had grown far more rapidly than grants to suburbs. The Great Lakes cities analyzed maintained the state pattern of receiving less aid than in other regions.

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* Advisory Commission on Intergovernmental Relations, The States and Intergovernmental Aid, A-59 (Washington, D.C: Government Printing Office, February 1977).

** Adjusted federal aid for each jurisdiction is equal to the jurisdiction's federal aid plus the "pass-through" amount. The "pass-through" amount is obtained by multiplying the jurisdiction's state aid times the estimated fraction of total states aid that originated at the federal level.

In terms of aid received by counties outside major SMSA's (Table 14), the West was highest with Great Lakes counties again the lowest. However, the Great Lakes counties registered by far the greatest 1970-1975 increase, while the increase for the West was least, reflecting a substantial reduction in regional disparities among rural counties.

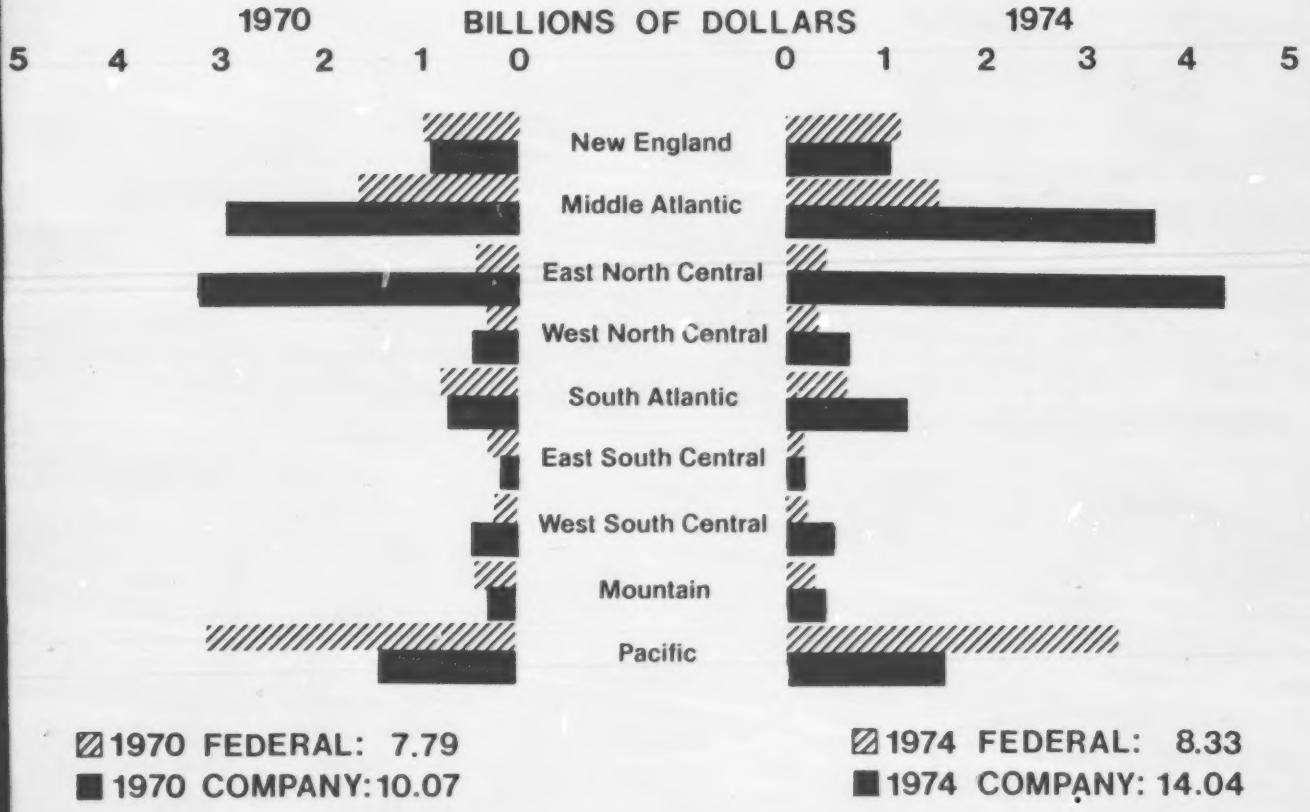
Of course, state and local grants-in-aid do not account for the bulk of federal expenditures. Transfer payments to individuals, federal payrolls, the location of federal installations and federal procurement are more significant components of the budget. These expenditures profoundly affect regional economies. In 25 years, the Great Lakes share of federal procurements has declined by over 60 percent and its share of federal payrolls has been similarly reduced. The region has a major interest in ensuring some equity in these federal locational decisions.

But its most urgent interest is in achieving a more careful targeting of federal expenditures to meet newly emerging regional needs. It should support a shift in grants-in-aid for capital facilities toward the renovation and modernization of existing facilities and away from present emphasis upon the construction of new facilities in new areas. It should devote attention to winning a fairer share of those federal expenditures that bear directly upon stimulating the Great Lakes economy. For instance in 1970, $27 billion was spent on research and development, of which about $18 billion was performed and spent by industry. Of the $18 billion, $7.8 billion was provided by the federal government. By 1974, industry performed research and development in excess of $22 billion of which $8.3 billion was funded by the federal government (Figure 1).

The Great Lakes region (East North Central) has its fair share of total research and development expenditures, about 20 percent of total spending in both years.

FIGURE 1.

Source of Industrial R and D Funds in the Nine Geographic Divisions



However, federal funding of research and development in the region amounts to only 5 percent of the national total ($406 million in 1974). For every dollar spent on R&D in the region in 1974, the region's own industry provided over 90 percent ($4.423 billion out of $4.867 billion).

In summary, examining grants-in-aid is a very complicated matter. Much of the distortion occurs because federal assistance is indirectly aimed at problems. That is, many of the grants were designed to assist with unemployment and low income, the EDA program, for example. But the money does not go directly to the unemployed or to those with low incomes, but rather into projects intended to assist in the generation of jobs and the creation of income for low-income families. EDA is one of the several federal agencies making grants for sewerage treatment facilities. The problem occurs when the need for sewerage treatment facilities is distributed quite differently from patterns of high unemployment and low income growth. As noted previously in the Water chapter, the projected need for sewerage treatment facilities in this region is much higher per capita than elsewhere in the country and yet this region receives, from all of the federal programs for sewerage treatment facilities, much less in per capita grants. All of this calls for a very careful program-by-program examination of the objectives underlying the grants-in-aid and the adequacy of the formulas for distributing such aid in light of present-day needs.

TABLE 4.

The Distribution of Public Welfare Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	5.7	7.7	8.14	12.04	37.00	77.57	109.6
Maine	9.2	11.2	16.66	27.67	50.05	125.55	150.9
Massachusetts	9.2	9.3	15.51	18.91	61.95	108.35	74.9
New Hampshire	4.8	7.9	7.19	13.92	24.24	67.99	180.5
New Jersey	5.2	8.0	7.47	13.84	31.60	86.60	174.0
New York	8.1	10.2	16.15	25.44	72.25	156.59	116.7
Pennsylvania	7.9	9.1	12.16	16.26	44.51	88.65	99.2
Rhode Island	10.1	11.3	16.40	21.62	60.67	116.76	92.5
Vermont	7.9	10.1	17.83	27.00	57.14	122.18	113.8
MIDWEST							
Illinois	5.5	8.6	8.55	14.89	36.44	92.74	154.5
Indiana	3.3	4.9	4.78	8.57	17.34	44.60	157.2
Iowa	5.0	5.6	9.02	10.99	31.51	57.72	83.2
Kansas	6.1	6.4	10.35	11.21	37.27	61.73	65.7
Michigan	5.4	8.9	9.18	17.24	36.20	100.74	178.3
Minnesota	6.5	8.0	12.46	18.31	44.05	99.60	126.1
Missouri	8.2	6.6	12.56	10.90	43.20	55.04	27.4
Nebraska	5.2	6.6	9.03	12.37	31.82	65.19	104.9
North Dakota	7.7	6.3	17.51	13.37	52.47	74.86	42.7
Ohio	5.6	6.6	7.61	10.44	28.69	57.51	100.5
South Dakota	6.4	7.8	13.91	16.87	41.66	78.93	89.5
Wisconsin	6.1	9.1	12.09	19.20	42.07	99.82	137.3
SOUTH							
Alabama	13.0	10.4	24.54	20.67	64.95	86.23	32.8
Arkansas	14.1	11.3	24.67	20.90	63.38	85.55	35.0
Delaware	4.2	5.5	7.13	10.66	28.85	66.55	130.7
D. C.	6.8	1.1	12.96	28.89	64.60	205.49	218.1
Florida	5.6	6.4	9.01	10.79	29.71	56.57	90.4
Georgia	11.1	10.8	18.62	21.56	57.82	101.51	75.6
Kentucky	11.3	10.4	20.10	21.08	57.46	92.56	61.1
Louisiana	12.6	7.9	25.64	18.10	73.29	78.89	7.7
Maryland	5.7	6.2	9.95	12.02	38.89	71.38	83.5
Mississipoi	16.1	9.9	35.44	22.55	83.68	84.96	1.5
North Carolina	8.2	8.2	13.14	15.03	38.86	69.00	77.5
Oklahoma	13.3	10.0	25.12	19.74	76.81	90.33	17.6
South Carolina	10.0	8.2	16.10	15.77	43.62	67.16	53.9
Tennessee	9.9	8.8	16.43	16.00	46.85	71.79	53.2
Texas	8.2	7.7	12.81	13.78	41.70	67.18	61.1
Virginia	5.4	7.0	8.39	12.27	27.89	64.75	132.2
West Virginia	10.8	7.2	21.10	15.53	57.27	67.42	17.7
WEST							
Alaska	1.1	3.2	10.62	10.74	44.25	72.63	64.2
Arizona	4.5	3.2	9.14	6.69	29.44	33.22	12.8
California	10.0	7.7	20.32	16.93	84.94	100.77	18.6
Colorado	7.6	6.5	14.84	13.21	50.90	71.77	41.0
Hawaii	4.4	5.7	9.87	13.89	39.22	81.99	109.1
Idaho	5.8	6.9	11.11	13.48	33.02	64.61	95.6
Montana	5.2	6.1	11.43	14.21	35.76	69.21	93.5
Nevada	3.5	4.0	7.11	8.95	29.63	52.13	76.0
New Mexico	8.4	7.8	21.18	21.15	60.03	85.60	42.6
Oregon	5.6	6.7	10.66	15.28	37.00	79.97	116.1
Utah	6.4	6.2	14.12	13.43	41.76	58.41	39.9
Washington	6.7	6.4	12.32	13.34	47.30	74.71	57.9
Wyoming	3.2	2.9	8.82	7.82	28.50	40.57	42.3
ALL STATES	7.7	8.2	13.64	16.28	49.90	87.99	76.3

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 5.
The Distribution of Education Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	1.7	1.6	2.48	2.57	11.17	16.55	48.1
Maine	2.9	2.5	5.20	5.20	15.63	23.60	51.0
Massachusetts	1.9	1.6	3.20	3.63	12.77	19.27	50.8
New Hampshire	3.0	2.1	4.41	3.64	14.88	17.76	19.4
New Jersey	2.1	1.5	3.05	2.51	12.91	15.74	21.9
New York	2.0	1.8	3.95	4.42	17.67	27.18	53.8
Pennsylvania	2.1	1.9	3.26	3.45	11.92	18.81	57.8
Rhode Island	2.7	2.4	4.39	4.69	16.25	25.33	55.9
Vermont	2.1	2.6	4.72	6.85	15.12	31.01	105.0
MIDWEST							
Illinois	1.9	1.6	2.93	2.84	12.50	17.67	41.3
Indiana	2.5	1.7	3.60	2.98	13.09	15.50	18.3
Iowa	2.0	2.0	3.63	3.83	12.69	20.11	58.4
Kansas	2.8	2.3	4.81	4.11	17.30	22.65	30.9
Michigan	1.6	1.7	2.77	3.35	10.91	19.58	79.4
Minnesota	1.9	1.3	3.73	3.07	13.17	16.72	27.0
Missouri	2.6	2.5	3.91	4.21	13.46	21.26	57.9
Nebraska	1.9	2.9	3.30	5.43	11.62	28.59	146.0
North Dakota	3.4	2.5	7.78	5.28	23.30	29.58	26.9
Ohio	2.3	1.6	3.11	2.49	11.72	13.69	16.8
South Dakota	4.0	4.1	8.64	8.75	25.87	40.92	58.1
Wisconsin	1.6	1.2	3.09	2.37	10.76	13.34	24.0
SOUTH							
Alabama	5.6	3.2	10.49	6.78	27.76	26.61	-4.2
Arkansas	5.3	3.9	9.25	7.25	23.76	29.68	24.9
Delaware	2.9	1.8	4.98	3.40	20.15	21.21	5.3
D. C.	14.8	1.1	28.39	2.92	*141.52	20.80	-85.3
Florida	3.2	1.7	5.07	2.85	16.72	14.92	-10.7
Georgia	4.1	2.5	6.84	4.95	21.25	23.33	9.8
Kentucky	5.0	3.0	8.92	6.17	25.51	27.08	6.2
Louisiana	3.4	2.6	6.48	5.82	19.95	25.37	27.2
Maryland	3.2	1.8	5.47	3.41	21.39	20.26	-5.3
Mississippi	7.1	5.3	15.48	12.11	36.55	45.61	2.5
North Carolina	4.9	2.7	7.75	5.02	22.93	23.03	0.5
Oklahoma	3.8	3.3	7.08	6.54	21.64	29.93	38.3
South Carolina	5.9	2.7	9.48	5.29	25.69	22.47	-12.5
Tennessee	4.3	2.9	7.15	5.25	20.40	23.56	15.5
Texas	4.0	2.3	6.26	4.13	20.37	20.16	-1.0
Virginia	4.7	3.0	7.27	5.29	24.14	27.90	15.6
West Virginia	3.7	2.6	7.30	5.69	19.82	24.69	24.6
WEST							
Alaska	1.9	6.5	19.09	27.02	79.50	148.91	87.3
Arizona	4.0	2.7	8.29	5.64	26.72	27.97	4.7
California	1.9	1.5	3.95	3.20	16.50	19.08	15.6
Colorado	2.8	2.4	5.39	4.91	18.49	26.68	44.3
Hawaii	3.8	2.1	8.45	5.22	33.58	30.79	-8.4
Idaho	2.9	2.6	5.49	5.07	16.33	24.30	48.8
Montana	3.0	3.0	6.58	6.87	20.58	33.48	62.6
Nevada	2.7	1.6	5.50	3.62	22.90	21.07	-8.0
New Mexico	5.4	3.7	13.64	10.10	38.61	40.89	5.8
Oregon	2.1	1.7	4.06	3.77	14.11	19.74	39.9
Utah	3.3	2.3	7.29	5.05	21.57	21.97	1.9
Washington	2.1	1.9	3.86	4.05	14.81	22.69	53.2
Wyoming	2.4	1.9	6.62	5.12	21.41	26.58	24.2
ALL STATES	2.8	2.1	4.89	4.09	17.90	22.10	23.4

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 6.
The Distribution of Highway and Transportation Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	3.3	2.6	4.76	4.05	21.65	26.09	20.5
Maine	4.1	2.5	7.27	5.21	21.86	23.65	8.2
Massachusetts	3.1	1.6	5.32	3.27	21.23	18.75	-11.7
New Hampshire	5.6	3.9	8.33	6.90	28.09	33.69	19.9
New Jersey	2.7	1.4	3.80	2.50	16.08	15.66	- 2.6
New York	1.6	1.6	3.19	4.00	14.26	24.63	72.8
Pennsylvania	3.5	2.7	5.38	4.86	19.69	26.48	34.5
Rhode Island	4.9	1.9	7.98	3.71	29.54	20.05	-32.1
Vermont	8.9	4.6	20.00	12.25	64.10	55.44	-13.5
MIDWEST							
Illinois	2.9	2.1	4.44	3.57	18.89	22.25	17.8
Indiana	3.7	1.6	5.37	2.87	19.52	14.93	-23.5
Iowa	3.5	3.3	6.45	6.39	22.54	33.55	48.8
Kansas	3.8	3.2	6.48	5.71	23.33	31.48	34.9
Michigan	2.7	1.8	4.59	3.47	18.10	20.28	12.1
Minnesota	4.2	1.9	8.13	4.40	28.74	23.95	-16.7
Missouri	4.5	3.5	6.83	5.84	23.49	29.48	25.5
Nebraska	4.2	4.2	7.39	7.90	26.04	41.60	59.7
North Dakota	5.9	4.4	13.25	9.32	39.70	52.22	31.5
Ohio	4.3	2.4	5.88	3.86	22.18	21.26	-4.1
South Dakota	9.2	5.5	19.94	11.91	59.72	55.70	-6.7
Wisconsin	1.4	1.2	2.79	2.61	9.71	13.59	39.9
SOUTH							
Alabama	4.7	3.3	8.89	6.49	23.53	27.07	15.0
Arkansas	5.1	3.2	8.89	6.01	22.84	24.60	7.7
Delaware	3.0	1.9	5.15	3.68	20.84	22.94	10.1
D. C.	4.9	1.7	9.37	4.64	46.70	33.00	-2.9
Florida	2.0	2.5	3.23	4.11	10.67	21.55	101.9
Georgia	2.6	3.7	4.45	7.46	13.81	35.12	154.3
Kentucky	4.9	2.6	8.74	5.33	24.98	23.38	-6.4
Louisiana	5.2	3.3	10.61	7.43	30.34	32.41	6.8
Maryland	2.4	2.7	4.16	5.11	16.28	30.39	86.7
Mississippi	5.1	3.1	11.12	7.13	26.26	26.87	2.3
North Carolina	2.4	2.0	3.77	3.75	11.16	17.20	54.1
Oklahoma	3.9	2.5	7.40	5.04	22.64	23.06	1.9
South Carolina	3.0	2.3	4.79	4.46	12.98	19.02	46.5
Tennessee	5.0	3.4	8.26	6.17	23.55	27.70	17.6
Texas	4.1	2.4	6.41	4.23	20.87	20.64	-1.1
Virginia	4.5	3.8	6.96	6.70	23.11	35.33	52.9
West Virginia	9.4	8.9	18.28	19.33	49.63	81.92	69.1
WEST							
Alaska	3.4	12.0	33.79	40.66	*140.74	*274.93	95.3
Arizona	5.9	4.3	12.16	8.91	39.18	44.23	12.9
California	3.1	1.7	6.32	3.76	26.42	22.40	-15.2
Colorado	4.0	3.1	7.78	6.42	26.69	34.88	30.7
Hawaii	5.2	4.1	11.65	10.05	46.30	59.30	28.1
Idaho	9.3	5.8	17.65	11.26	52.47	53.95	2.8
Montana	13.6	5.7	29.54	13.25	92.46	64.54	-30.2
Nevada	8.5	4.1	17.27	9.12	71.92	53.10	-26.2
New Mexico	7.7	5.0	19.56	13.63	55.41	55.16	-0.5
Oregon	5.1	3.9	9.78	8.80	33.94	46.07	35.7
Utah	10.4	5.2	22.91	11.28	67.75	49.07	-27.6
Washington	4.0	2.9	7.37	6.00	28.32	33.63	18.7
Wyoming	12.7	6.9	32.25	18.42	113.91	95.54	-16.1
ALL STATES	3.5	2.5	6.18	4.93	22.62	26.64	17.8

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 7.

The Distribution of Development Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	2.3	2.2	3.33	3.41	15.16	21.94	44.8
Maine	1.4	1.2	2.50	2.50	7 51	11.36	51.2
Massachusetts	2.2	1.8	3.73	3.76	14.91	21.54	44.4
New Hampshire	2.6	1.7	3.88	3.09	13.08	15.07	15.2
New Jersey	2.5	1.2	3.58	2.12	15.13	13.30	-12.1
New York	1.4	1.3	2.72	3.24	12.15	19.95	64.2
Pennsylvania	4.8	2.4	7.01	4.34	25.65	23.68	-7.7
Rhode Island	3.0	1.8	4.92	3.52	18.21	19.02	4.4
Vermont	1.2	0.8	2.79	2.20	8.93	9.95	11.4
MIDWEST							
Illinois	1.2	0.7	1.91	1.21	8.15	7.51	-7.8
Indiana	0.9	1.2	1.35	2.09	4.90	10.86	121.9
Iowa	1.0	1.2	1.82	2.36	6.36	12.39	94.8
Kansas	1.6	2.0	2.62	3.53	9.41	19.42	106.3
Michigan	1.3	1.2	2.13	2.24	8.40	13.12	56.1
Minnesota	1.2	1.3	2.33	3.00	8.25	16.30	97.6
Missouri	2.2	1.7	3.31	2.84	11.39	14.37	26.2
Nebraska	0.6	0.8	1.07	1.40	3.76	7.38	96.4
North Dakota	0.8	1.1	1.75	2.32	5.24	13.00	148.0
Ohio	2.0	1.5	2.78	2.35	10.48	12.94	23.4
South Dakota	1.2	3.2	2.51	6.89	7.52	32.25	328.8
Wisconsin	1.1	0.4	2.16	0.76	7.53	3.93	-47.7
SOUTH							
Alabama	3.4	1.6	6.42	3.17	17.00	13.22	-22.2
Arkansas	3.0	2.3	5.19	4.25	13.33	17.41	30.6
Delaware	1.0	0.71	1.67	1.37	6.76	8.55	26.6
D. C.	5.5	4.1	10.61	11.20	52.90	79.64	50.5
Florida	1.3	0.8	2.09	1.30	6.90	6.83	-1.1
Georgia	2.6	1.4	4.37	2.79	13.56	13.12	-3.2
Kentucky	3.8	2.2	6.77	4.54	19.35	19.95	3.1
Louisiana	1.1	0.8	2.33	1.92	6.66	8.35	25.4
Maryland	1.9	1.1	3.27	2.13	12.79	12.64	-1.2
Mississippi	3.4	2.0	7.42	4.55	17.52	17.15	-2.1
North Carolina	2.5	1.6	4.03	3.01	11.93	13.81	15.8
Oklahoma	2.6	2.1	4.86	4.09	14.87	18.71	25.8
South Carolina	2.1	1.6	3.32	3.14	8.98	13.37	48.8
Tennessee	3.3	2.2	5.41	3.97	15.42	17.79	15.4
Texas	1.6	1.0	2.49	1.77	8.09	8.63	6.6
Virginia	2.7	1.2	4.13	2.09	13.72	11.03	-19.6
West Virginia	6.0	5.2	11.72	11.24	31.81	48.79	53.3
WEST							
Alaska	0.9	1.7	8.78	5.78	36.56	39.08	6.9
Arizona	2.1	1.2	4.37	2.40	14.07	11.89	-15.5
California	1.0	0.7	2.13	1.52	8.90	9.02	1.4
Colorado	2.0	1.2	3.93	2.45	13.49	13.31	-1.3
Hawaii	1.2	0.8	2.75	1.96	10.92	11.59	6.1
Idaho	0.7	1.6	1.35	3.10	4.02	14.84	269.0
Montana	1.9	1.5	4.21	3.56	13.18	17.32	31.4
Nevada	1.1	0.6	2.25	1.37	9.38	7.98	-14.9
New Mexico	2.8	1.8	7.17	5.01	20.33	20.26	-0.3
Oregon	1.5	0.8	2.97	1.80	10.30	9.42	-8.5
Utah	1.3	1.1	2.78	2.40	8.21	10.45	27.2
Washington	1.1	0.8	1.98	1.61	7.60	8.99	18.4
Wyoming	0.5	0.7	1.50	1.80	4.85	9.31	92.2
ALL STATES	1.9	1.3	3.32	2.67	12.16	14.42	18.6

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 8.

The Distribution of Revenue Sharing Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut		2.5		3.95		25.46	
Maine		3.9		7.94		36.03	
Massachusetts		2.9		5.83		33.41	
New Hampshire		2.8		4.99		24.39	
New Jersey		2.4		4.22		26.40	
New York		2.5		6.17		37.95	
Pennsylvania		2.8		5.05		27.54	
Rhode Island		2.8		5.45		29.44	
Vermont		3.0		8.14		36.82	
MIDWEST							
Illinois		2.3		3.94		24.54	
Indiana		2.7		4.65		24.19	
Iowa		2.9		5.71		30.00	
Kansas		2.6		4.61		25.37	
Michigan		2.5		4.90		28.62	
Minnesota		2.5		5.76		31.33	
Missouri		2.9		4.85		24.49	
Nebraska		2.8		5.20		27.39	
North Dakota		3.0		6.24		34.97	
Ohio		2.6		4.14		22.81	
South Dakota		3.8		8.18		38.25	
Wisconsin		3.1		6.46		33.61	
SOUTH							
Alabama		3.5		6.86		28.60	
Arkansas		4.0		7.44		30.45	
Delaware		2.7		5.12		31.99	
D. C.		1.9		5.29		37.60	
Florida		2.6		4.31		22.57	
Georgia		2.8		5.61		26.40	
Kentucky		3.3		6.68		29.33	
Louisiana		3.7		8.45		36.86	
Maryland		2.6		4.93		29.24	
Mississippi		4.9		11.15		42.02	
North Carolina		3.4		6.31		28.94	
Oklahoma		2.8		5.59		25.56	
South Carolina		3.7		7.07		30.13	
Tennessee		3.5		6.42		28.78	
Texas		2.8		4.91		23.96	
Virginia		2.6		4.64		24.48	
West Virginia		3.6		7.77		33.75	
WEST							
Alaska		1.0		3.44		23.29	
Arizona		2.8		5.69		28.24	
California		2.3		5.16		30.73	
Colorado		2.3		4.74		25.76	
Hawaii		2.2		5.25		30.98	
Idaho		3.1		6.14		29.44	
Montana		3.0		6.85		33.34	
Nevada		1.8		3.91		22.76	
New Mexico		3.1		8.35		33.80	
Oregon		2.3		5.13		26.83	
Utah		3.2		6.92		30.11	
Washington		2.1		4.40		24.62	
Wyoming		2.1		5.59		28.98	
ALL STATES							
		2.7		5.32		28.76	

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 9.

The Distribution of Manpower and Employment Security Administration Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	0.9	1.6	1.25	2.44	5.69	15.70	176.8
Maine	0.9	1.8	1.56	3.77	4.68	17.09	265.3
Massachusetts	0.9	1.6	1.54	3.33	6.15	19.06	210.0
New Hampshire	1.1	1.4	1.56	2.51	5.26	12.26	133.3
New Jersey	0.9	1.8	1.28	3.13	5.42	19.60	261.7
New York	0.7	1.2	1.47	2.88	6.59	17.71	168.8
Pennsylvania	0.8	1.8	1.23	3.14	4.51	17.13	280.0
Rhode Island	1.2	2.4	1.88	4.67	6.96	25.23	262.3
Vermont	1.0	1.7	2.21	4.55	7.08	20.59	190.9
MIDWEST							
Illinois	0.7	1.1	1.04	1.86	4.41	11.61	163.3
Indiana	0.8	2.1	1.09	3.62	3.95	18.82	376.6
Iowa	0.5	1.0	0.92	1.96	3.22	10.29	219.9
Kansas	0.7	1.2	1.23	2.14	4.43	11.79	166.2
Michigan	0.8	1.9	1.36	3.70	5.37	21.63	302.9
Minnesota	0.7	1.3	1.32	3.02	4.66	16.44	252.9
Missouri	0.9	1.9	1.40	3.19	4.81	16.12	235.2
Nebraska	0.6	1.4	0.97	2.64	3.43	13.90	305.8
North Dakota	0.7	1.9	1.68	4.07	5.04	22.78	352.0
Ohio	0.8	1.6	1.07	2.45	4.04	13.49	234.2
South Dakota	0.7	2.2	1.41	4.65	4.23	21.78	415.2
Wisconsin	0.6	1.3	1.24	2.72	4.32	14.13	227.0
SOUTH							
Alabama	0.9	1.7	1.74	3.33	4.60	13.88	201.4
Arkansas	1.2	2.6	2.08	4.75	5.35	19.46	263.5
Delaware	0.6	1.5	0.98	2.96	3.95	18.45	367.2
D. C.	3.2	6.1	6.19	16.86	30.85	119.93	288.7
Florida	0.6	1.5	0.93	2.57	3.05	13.45	340.4
Georgia	0.7	1.3	1.10	2.60	3.40	12.24	259.6
Kentucky	0.6	2.5	1.14	5.01	3.25	22.00	577.6
Louisiana	0.7	2.0	1.34	4.58	3.82	19.96	422.4
Maryland	0.7	1.0	1.21	1.90	4.74	11.25	137.3
Mississippi	1.2	1.9	2.63	4.43	6.22	16.68	168.3
North Carolina	0.8	1.8	1.21	3.38	3.58	15.53	334.1
Oklahoma	0.9	2.4	1.75	4.76	5.34	21.80	308.3
South Carolina	1.0	2.1	1.54	4.02	4.16	17.13	311.9
Tennessee	0.9	1.7	1.46	3.00	4.16	13.47	223.8
Texas	0.7	1.8	1.13	3.21	3.68	15.64	324.8
Virginia	0.7	1.2	1.02	2.09	3.37	11.00	226.0
West Virginia	0.8	2.2	1.58	4.70	4.29	20.42	375.9
WEST							
Alaska	0.4	2.6	3.84	8.84	16.01	59.78	273.5
Arizona	1.1	2.4	2.16	4.93	6.95	24.45	252.0
California	0.7	2.0	1.44	4.34	6.00	25.86	330.8
Colorado	0.8	1.2	1.59	2.51	5.44	13.65	150.9
Hawaii	0.7	2.0	1.50	4.78	5.95	28.22	374.3
Idaho	1.3	2.3	2.54	4.48	7.56	21.45	183.8
Montana	1.0	2.8	2.19	6.47	6.87	31.51	358.7
Nevada	1.1	2.8	2.28	6.23	9.52	36.28	281.1
New Mexico	1.0	3.1	2.46	8.32	6.97	33.67	383.1
Oregon	0.9	1.9	1.65	4.37	5.71	22.86	300.1
Utah	1.3	3.6	2.75	7.80	8.13	33.94	317.5
Washington	0.9	2.2	1.56	4.67	6.36	26.15	311.3
Wyoming	0.9	1.4	2.58	1.74	8.34	19.38	132.4
ALL STATES	0.8	1.7	1.41	3.45	5.16	18.66	261.6

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 10.

The Distribution of Health and Hospital Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	0.8	2.6	1.07	4.01	4.86	25.83	431.5
Maine	1.3	3.9	2.28	8.09	6.84	36.74	437.1
Massachusetts	0.9	1.9	1.39	3.85	6.35	22.03	246.8
New Hampshire	1.4	3.0	2.09	5.35	7.07	26.1[illegible]	270.1
New Jersey	0.7	1.8	0.96	3.08	4.04	19.2[illegible]	376.8
New York	0.5	1.5	1.04	3.75	4.67	23.1[illegible]	394.8
Pennsylvania	1.1	1.7	1.66	3.10	6.06	16.9[illegible]	179.0
Rhode Island	0.7	1.9	1.20	3.65	4.43	19.[illegible]0	344.9
Vermont	1.8	2.2	4.07	6.04	13.05	27.31	109.2
MIDWEST							
Illinois	0.6	1.5	0.88	2.64	3.75	16.45	338.1
Indiana	0.8	1.6	1.12	2.80	4.07	14.59	258.1
Iowa	1.0	1.7	1.74	3.39	6.08	17.80	192.8
Kansas	1.0	1.4	1.69	2.50	6.09	13.77	126.2
Michigan	0.8	1.7	1.39	3.25	5.50	19.02	246.0
Minnesota	0.7	1.2	1.32	2.82	4.65	15.31	229.3
Missouri	1.4	2.1	2.15	3.47	7.39	17.54	137.2
Nebraska	0.9	1.9	1.50	3.48	5.29	18.35	246.9
North Dakota	1.1	1.3	2.38	2.81	7.13	15.72	120.4
Ohio	0.9	1.9	1.29	2.93	4.86	16.12	231.9
South Dakota	1.0	1.5	2.20	3.23	6.58	15.09	129.4
Wisconsin	0.8	1.2	1.61	2.53	5.62	13.16	134.2
SOUTH							
Alabama	1.5	1.7	2.79	3.32	7.38	13.86	87.7
Arkansas	1.5	2.2	2.67	4.12	6.86	16.87	146.1
Delaware	0.7	1.9	1.24	3.63	5.02	22.69	351.8
D. C.	1.6	4.6	3.13	12.61	15.58	*89.70	475.6
Florida	0.8	1.6	1.31	2.60	4.32	13.64	215.6
Georgia	1.1	1.6	1.78	3.23	5.51	15.19	175.6
Kentucky	1.3	2.1	2.39	4.20	6.84	18.44	169.4
Louisiana	1.0	1.6	2.00	3.62	5.71	15.78	176.2
Maryland	0.7	4.4	1.27	8.47	4.96	50.27	912.8
Mississippi	1.3	2.2	2.84	4.97	6.71	18.74	179.0
North Carolina	1.6	1.6	2.50	2.96	7.39	13.58	83.6
Oklahoma	1.1	1.7	2.09	3.45	6.39	15.78	147.1
South Carolina	1.8	2.4	2.87	4.61	7.77	19.65	153.0
Tennessee	1.6	2.1	2.65	3.77	7.56	16.93	123.9
Texas	0.9	1.7	1.45	2.95	4.72	14.40	205.3
Virginia	0.9	2.2	1.36	3.86	4.32	20.38	351.4
West Virginia	1.3	1.7	2.61	3.70	7.09	16.07	126.6
WEST							
Alaska	0.2	2.4	1.63	8.17	6.80	55.26	712.2
Arizona	1.4	1.6	2.80	3.21	9.01	15.93	76.8
California	0.5	1.2	1.02	2.68	4.25	15.96	275.3
Colorado	1.2	2.1	2.24	4.21	7.68	22.85	197.6
Hawaii	1.3	1.9	2.95	4.71	11.72	27.80	137.1
Idaho	1.1	2.5	2.03	4.84	6.04	23.21	284.5
Montana	1.0	2.0	2.24	4.63	7.00	22.57	222.4
Nevada	0.5	1.8	1.10	3.88	4.59	22.62	392.4
New Mexico	1.4	1.6	3.60	4.24	10.19	17.15	68.3
Oregon	0.9	2.0	1.75	4.65	6.08	24.32	299.7
Utah	1.3	2.3	2.76	4.96	8.15	21.56	164.4
Washington	0.7	1.8	1.36	3.70	5.21	20.72	297.8
Wyoming	0.7	1.2	2.02	3.16	6.53	16.57	153.7
ALL STATES	0.9	1.8	1.54	3.51	5.64	18.96	236

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 11.

The Distribution of Natural Resources Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	0.07	0.07	0.09	0.11	0.43	0.73	68.9
Maine	0.5	0.4	0.81	0.81	2.44	3.68	50.8
Massachusetts	0.09	0.09	0.15	0.18	0.59	1.04	77.2
New Hampshire	0.6	0.4	0.82	0.69	2.77	3.58	22.0
New Jersey	0.04	0.1	0.06	0.18	0.26	1.14	339.9
New York	0.03	0.05	0.07	0.12	0.30	0.75	149.4
Pennsylvania	0.07	0.1	0.10	0.24	0.37	1.29	251.8
Rhode Island	0.2	0.3	0.34	0.59	1.25	3.21	156.2
Vermont	0.5	0.5	1.15	1.44	3.68	6.49	76.6
MIDWEST							
Illinois	0.06	0.09	0.09	0.15	0.40	0.93	132.2
Indiana	0.2	0.1	0.27	0.19	0.97	0.97	-0.2
Iowa	0.2	0.2	0.35	0.47	1.23	2.46	100.9
Kansas	0.4	0.3	0.69	0.58	2.50	3.20	27.9
Michigan	0.1	0.08	0.24	0.16	0.95	0.92	-2.9
Minnesota	0.2	0.1	0.33	0.31	1.17	1.66	41.5
Missouri	0.2	0.3	0.24	0.49	0.82	2.47	203.3
Nebraska	0.4	0.4	0.67	0.74	2.37	3.92	65.3
North Dakota	0.5	0.6	1.06	1.22	3.17	6.83	115.2
Ohio	0.09	0.1	0.13	0.19	0.48	1.04	118.6
South Dakota	0.5	0.7	1.04	1.43	3.11	6.70	115.5
Wisconsin	0.2	0.2	0.33	0.33	1.14	1.71	49.9
SOUTH							
Alabama	0.1	0.4	0.50	0.73	1.33	3.05	128.7
Arkansas	0.79	0.67	1.38	1.25	3.54	5.12	44.4
Delaware	0.5	0.2	0.78	0.36	3.17	2.27	-28.5
D. C.	0.01	0.06	0.02	0.17	0.11	1.23	1003.6
Florida	0.1	0.1	0.20	0.17	0.65	0.91	39.5
Georgia	0.3	0.2	0.56	0.35	1.75	1.65	-5.4
Kentucky	0.2	0.2	0.39	0.41	1.13	1.78	58.4
Louisiana	0.2	0.3	0.45	0.69	1.30	3.02	133.5
Maryland	0.1	0.1	0.18	0.22	0.72	1.30	80.5
Mississippi	0.7	0.8	1.62	1.84	3.83	6.95	81.5
North Carolina	0.2	0.2	0.27	0.44	0.81	2.01	147.8
Oklahoma	0.7	0.6	1.24	1.17	3.78	5.35	41.5
South Carolina	0.3	0.4	0.52	0.77	1.40	3.00	135.9
Tennessee	0.2	0.2	0.39	0.42	1.12	1.90	69.3
Texas	0.2	0.2	0.38	0.34	1.22	1.68	37.2
Virginia	0.3	0.1	0.40	0.20	1.34	1.06	-20.6
West Virginia	0.4	0.4	0.78	0.77	2.11	3.36	59.7
WEST							
Alaska	0.3	0.7	3.47	2.53	14.45	17.13	18.5
Arizona	0.3	0.5	0.61	0.94	1.96	4.68	138.6
California	0.1	0.2	0.30	0.40	1.26	2.37	87.9
Colorado	0.2	0.2	0.41	0.46	1.40	2.51	78.7
Hawaii	0.2	0.1	0.47	0.30	1.88	1.75	-7.2
Idaho	1.5	1.4	2.80	2.81	8.32	13.48	61.9
Montana	1.5	1.1	3.32	2.54	10.40	12.37	19.0
Nevada	0.5	0.3	0.93	0.70	3.88	4.09	5.4
New Mexico	0.4	0.5	0.92	1.33	2.62	5.38	105.3
Oregon	2.5	1.8	4.82	4.06	16.74	21.23	26.8
Utah	0.4	0.6	0.93	1.35	2.76	5.87	112.9
Washington	0.7	0.5	1.29	1.14	4.97	6.39	28.6
Wyoming	0.9	1.0	2.59	2.66	8.36	13.80	65.2
ALL STATES	0.2	0.2	0.38	0.43	1.37	2.31	68.2

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 12.

The Distribution of All Other Grants by State for 1970 and 1975

	As a Percent of Total General Revenue		Per $1000 of Personal Income		Per Capita		Percent Change 1970-75
	1970	1975	1970	1975	1970	1975	
NORTHEAST							
Connecticut	0.2	0.7	0.33	1.17	1.49	7.54	405.0
Maine	0.8	0.8	1.38	1.71	4.16	7.75	86.3
Massachusetts	0.3	0.5	0.47	1.12	1.88	6.42	241.4
New Hampshire	0.5	1.0	0.72	1.77	2.42	8.66	257.6
New Jersey	0.2	0.7	0.24	1.20	1.02	7.50	632.7
New York	0.2	0.4	0.48	0.93	2.15	5.72	166.2
Pennsylvania	0.2	0.8	0.32	1.40	1.17	7.61	548.4
Rhode Island	0.4	0.9	0.64	1.81	2.37	9.79	313.8
Vermont	0.6	1.5	1.30	3.92	4.16	17.71	325.4
MIDWEST							
Illinois	0.2	0.6	0.24	0.98	1.02	6.08	498.0
Indiana	0.8	0.8	1.09	1.40	3.97	7.26	82.8
Iowa	0.5	0.9	0.82	1.78	2.87	9.35	225.8
Kansas	0.4	0.7	0.74	1.26	2.67	6.93	159.0
Michigan	0.2	0.6	0.30	1.18	1.19	6.90	477.7
Minnesota	0.3	0.7	0.67	1.69	2.36	9.21	289.9
Missouri	0.5	1.2	0.81	1.99	2.77	10.03	261.6
Nebraska	0.5	1.3	0.89	2.37	3.13	12.47	298.8
North Dakota	0.9	1.6	1.97	3.41	5.89	19.08	223.9
Ohio	0.2	0.8	0.26	1.33	0.97	7.32	653.2
South Dakota	1.1	2.2	2.34	4.83	7.00	22.59	222.6
Wisconsin	0.3	0.6	0.66	1.22	2.31	6.35	175.4
SOUTH							
Alabama	1.1	1.7	2.06	3.46	5.45	14.44	165.3
Arkansas	0.7	1.6	1.24	3.05	3.19	12.48	290.7
Delaware	0.7	1.1	1.12	2.08	4.53	12.98	186.7
D. C.	19.3	19.1	36.84	52.42	183.62	372.85	103.1
Florida	0.6	0.8	0.91	1.40	3.01	7.34	143.9
Georgia	0.7	1.2	1.14	2.29	3.55	10.78	203.9
Kentucky	0.7	1.3	1.16	2.73	3.33	11.97	260.0
Louisiana	0.6	1.2	1.25	2.72	3.59	11.85	230.5
Maryland	0.1	0.8	0.24	1.50	0.95	8.89	836.1
Mississippi	1.1	1.5	2.35	3.44	5.54	12.96	133.7
North Carolina	0.7	1.1	1.05	2.07	3.11	9.49	204.5
Oklahoma	1.1	3.6	2.07	7.15	6.32	32.73	418.2
South Carolina	0.6	1.4	1.01	2.75	2.73	11.73	330.1
Tennessee	1.1	1.9	1.77	3.47	5.05	15.55	207.6
Texas	0.5	0.9	0.72	1.54	2.35	7.52	219.5
Virginia	0.4	0.7	0.63	1.19	2.10	6.26	197.7
West Virginia	0.4	0.8	0.78	1.71	2.11	7.44	252.0
WEST							
Alaska	1.1	2.1	10.94	7.24	45.55	48.93	7.4
Arizona	1.0	1.7	2.02	3.50	6.51	17.39	167.0
California	0.2	0.5	0.48	1.10	1.99	6.55	229.7
Colorado	0.6	2.3	1.11	4.80	3.81	26.09	585.5
Hawaii	1.2	0.9	2.75	2.18	10.92	12.88	18.0
Idaho	1.0	1.4	1.98	2.67	5.88	12.82	117.8
Montana	1.3	2.1	2.87	4.92	8.98	23.95	166.8
Nevada	0.6	1.2	1.27	2.55	5.30	14.85	180.2
New Mexico	3.0	5.1	7.47	13.89	21.18	56.22	165.4
Oregon	2.8	1.0	5.35	2.29	18.59	12.00	-35.4
Utah	0.9	1.3	1.97	2.87	5.83	12.50	141.1
Washington	0.4	0.6	0.75	1.30	2.89	7.29	151.9
Wyoming	6.7	7.4	18.44	19.85	59.59	102.96	72.8
ALL STATES	0.7	1.3	1.30	2.49	4.77	13.47	183

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 13.

Per Capita Distribution of Federal Aid for Selected Major SMSA's, 1970 and 1975 (Adjusted for "Pass - Through" Component)

Area	Outside Central City			Central City [a]		
	1970	1975	Per Cent Change 1970-1975	1970	1975	Per Cent Change 1970-197
NORTHEAST						
Hartford	16.33	38.62	136	19.57	100.90	416
Boston	45.01	58.24	29	52.58	229.34	337
Springfield	30.28	53.06	75	45.86	173.66	279
Jersey City	40.42	111.32	175	26.08	95.05	264
Newark	53.86	274.07	409	31.99	184.50	478
Albany	67.97	175.09	158	45.24	41.70	7
Buffalo	70.96	160.45	126	40.49	158.20	293
New York	60.33	102.96	71	110.77	322.80	191
Rochester	71.86	185.13	158	72.65	86.25	19
Syracuse	82.13	170.53	108	58.90	137.61	168
Allentown	19.95	51.12	156	3.59	24.35	578
Philadelphia	17.46	54.69	213	31.08	111.04	257
Pittsburgh	20.70	61.29	196	29.76	71.93	142
Providence	12.05	49.51	311	28.54	54.57	91
MIDWEST						
Chicago	31.78	45.10	42	45.29	102.75	127
Gary	26.38	113.90	332	30.68	104.48	241
Indianapolis	29.01	65.15	125	9.75	80.65	728
Detroit	17.42	70.27	303	42.67	151.34	255
Flint	15.85	96.46	508	36.16	118.57	228
Grand Rapids	11.74	59.96	411	18.47	88.77	380
Minneapolis	73.43	184.62	124	19.24	57.47	199
Kansas City, Mo.	35.91	82.37	129	22.63	92.29	264
St. Louis	32.34	60.91	87	12.90	66.20	413
Omaha	100.24	155.25	55	26.96	62.31	131
Akron	9.39	66.81	611	29.14	45.62	57
Cincinnati	23.83	69.30	191	63.84	161.92	154
Cleveland	13.39	47.41	254	10.54	93.85	790
Columbus	18.73	53.57	186	14.93	53.48	258
Dayton	16.86	54.86	225	47.72	131.76	176
Toledo	25.85	51.67	100	12.91	65.56	408
Youngstown	12.58	52.51	317	13.11	53.59	309
Milwaukee	28.16	106.34	278	20.26	85.54	322
SOUTH						
Birmingham	40.50	87.34	116	18.93	64.29	240
Wilmington	5.82	56.14	863	15.85	189.88	1098
Jacksonville	16.21	68.32	322	24.63	82.89	237
Miami	10.21	59.34	482	120.72	123.70	2
Tampa	16.79	46.39	176	40.29	125.01	210
Atlanta	27.13	56.54	108	23.29	222.18	854
Louisville	31.02	49.95	61	62.73	146.77	134
New Orleans	29.68	64.17	116	12.97	114.32	782
Baltimore	28.77	31.81	11	82.30	215.58	162
Greensboro	60.10	120.85	101	19.45	56.79	192

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U. S. Bureau of the Census, Governmental Finances.

TABLE 13. (Continued)

Area	Outside Central City			Central City		
	1970	1975	Per Cent Change 1970-1975	1970	1975	Per Cent Change 1970-197
Oklahoma City	$28.86	$ 82.97	188	$23.77	$ 54.23	128
Tulsa	19.64	72.32	268	26.10	95.42	266
Memphis	77.84	185.43	138	16.86	59.05	250
Nashville	69.45	79.65	15	31.95	81.42	156
Dallas	18.72	57.73	208	10.80	47.12	336
Houston	17.44	59.55	241	11.93	49.97	319
San Antonio	80.31	206.40	157	13.73	58.28	325
Norfolk	59.74	81.94	37	57.68	200.79	248
Richmond	35.82	62.34	74	38.23	191.39	399
WEST						
Phoenix	54.47	61.84	14	14.53	57.97	299
Anaheim	49.46	110.80	124	5.25	17.21	228
Los Angeles	79.53	159.76	101	28.48	102.86	261
Riverside	78.35	152.97	95	8.43	20.98	149
Sacramento	99.82	200.42	101	22.66	49.21	117
San Diego	81.95	86.60	5	36.67	178.45	387
San Francisco	72.57	169.32	133	121.34	242.16	100
San Jose	80.62	211.32	162	10.34	33.35	226
Denver	42.30	89.57	112	73.08	146.67	101
Portland	32.43	103.06	218	38.67	91.01	135
Salt Lake City	17.31	70.55	307	18.80	26.83	43
Seattle	18.73	53.29	184	18.05	69.40	284

[a] In some cases the city school district is not part of the city government. In these cases grants received by the school district and the city were combined.

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

TABLE 14.

Per Capita Distribution of Federal Aid for Counties
Outside Selected Major SMSA's, 1970 and 1975
(Adjusted for "Pass-through" Component)

Counties	1970	1975	Percent Change 1970-75
NORTHEAST			
New London, Conn.	$21.30	$111.52	424
Bristol, Mass.	35.44	98.42	178
Plymouth, Mass.	32.05	71.63	123
Hillsborough, N.H.	12.64	113.03	794
Mercer, N.J.	40.92	79.55	94
Monmouth, N.J.	33.87	76.42	126
Broome, N.Y.	86.02	132.00	53
Dutchess, N.Y.	53.20	138.49	160
Oneida, N.Y.	72.93	181.47	149
Orange, N.Y.	66.84	154.78	132
Berks, Penn.	17.27	64.15	272
Dauphin, Penn.	25.10	110.07	339
Lancaster, Penn.	14.63	29.61	102
York, Penn.	11.86	41.24	248
MIDWEST			
Winnebago, Ill.	27.69	71.68	159
Allen, Ind.	12.79	53.63	319
St. Joseph, Ind.	20.59	87.10	323
Polk, Ind.	30.93	94.53	206
Ingham, Mich.	14.80	106.95	623
Saginaw, Mich.	32.55	51.62	59
Washtenaw, Mich.	10.45	54.34	420
St. Louis, Minn.	57.60	193.52	236
Lorain, Ohio	12.24	44.33	262
Stark, Ohio	9.86	38.47	290
Dane, Wisc.	15.04	65.95	338
SOUTH			
Mobile, Ala.	32.15	83.00	159
Brevard, Fla.	52.73	60.77	15
Palm Beach, Fla.	14.26	47.38	232
Polk, Fla.	18.71	48.23	158
Caddo, La.	12.63	89.61	609
East Baton Rouge, La.	9.14	73.06	699
Hinds, Miss.	8.34	114.02	1267
Wake, N.C.	40.24	126.89	215

TABLE 14. (Continued)

Counties	1970	1975	Percent Change 1970-75
SOUTH (continued)			
Charleston, S.C.	$50.23	$ 86.41	72
Greenville, S.C.	21.84	90.37	314
Richland, S.C.	33.01	94.54	186
Hamilton, Tenn.	41.62	113.54	173
El Paso, Tx.	31.52	89.11	183
Jefferson, Tx.	16.03	54.95	243
Nueces, Tx.	27.81	108.59	290
Travis, Tx.	22.91	88.88	288
Kanawha, W. Va.	19.45	82.98	327
WEST			
Pima, Az.	28.97	60.68	109
Kern, Ca.	73.90	148.35	101
Monterey, Ca.	62.55	122.02	95
San Joaquin, Ca.	68.71	170.34	148
Santa Barbara, Ca.	60.34	124.29	106
Ventura, Ca.	63.15	126.47	100
Clark, Nev.	34.96	68.26	95
Bernalillo, N.M.	42.44	132.38	212
Pierce, Wash.	25.60	57.93	126
Spokane, Wash.	10.33	36.01	248

Source: Academy for Contemporary Problems staff computations based on the 1970 and 1975 editions of the Department of Treasury, Federal Aid to States; and the 1970 and 1975 editions of the U.S. Bureau of the Census, Governmental Finances.

VII.

ORGANIZING FOR GREAT LAKES ECONOMIC ACTION

The survey identified a number of common problems shared by the states and communities of the region and a high degree of economic interdependence. However, there is no overwhelming need and little sentiment for regional government. The need is for a new mechanism to bridge the present gap between the public and private leadership of the region and raise the level of understanding of the region's problems and interdependence.

This survey has identified numerous common problems shared by the states and communities of the Great Lakes region.

It has found a high level of interdependence among the states in their manufacturing industries. Eleven SMSA's straddle state lines.
In energy, transportation, and water development, the states will undoubtedly have to cooperate for effective action over the long term. The industrial cities and towns, no matter in what state they are situated, face common problems.

Nonetheless, this survey found no overwhelming need for regional governmental entities to deal with these issues.

Rather the needs can be met through far more informal mechanisms for cooperation that:

- Enable the region to make its presence felt on the national scene in securing its best interests;
- Enable the state and communities to pool ideas and develop cooperative approaches to the problems they share;
- Bridge the gap between the public and private leadership of the region;
- Provide a new mechanism for economic leadership and the generation of initiatives in the region.

A PUBLIC-PRIVATE PARTNERSHIP

Such organizations as the former Rocky Mountains Federation, the Southern Growth Policies Board, and mechanisms in other regions of the country help to bring together the top leadership in state and local government with business, labor, and civic leadership outside the formal government structure. (These are described briefly at the end of this section). In the Great Lakes region, such a body would enable public and private leadership to consider where the region was headed and what is needed to enhance regional economic well-being. This is precisely the charter of The Committee for Great Lakes Economic Action. But the present Committee, as all of its members realize, cannot advance very far in achieving action on some of the significant problems unless it draws in a broader and higher level of constituency.

The type of regional organization suggested here is not one designed to exercise power on behalf of the constituent states. On the contrary, its principal task would be to develop the continuing analysis and discussion of issues central to the continued health of a region in economic transition. If these issues are identified and dealt with at the highest level in the public and private sectors, the states, individually, are quite competent to interpret and apply the results to their own situations.

The major roles of the organization should be to provide a forum for principals to talk directly to one another: labor and management, businessmen and elected officials, urban and rural interests. The organization could monitor regional economic trends, stimulate research and demonstration projects and communicate the results of innovative programs widely throughout the region. The organization could be a vehicle for the discussion of regional economic issues and the identification of alternative policies.

A major difference between the Southern Growth Policies Board (discussed below) and the organization contemplated here is the representation of varied interests, public and private, that is required in the Great Lakes. The Southern Growth Policies Board is operated by state governors and legislators; the Great Lakes organization could be governed by relatively equal representation of both the public and private sectors. In addition to the state executive branch, there should be representation from the legislature and from major local governments.

Whatever organizational form is chosen, it should be appropriate for the regional organization to spin off other institutions for special projects.

The Midwest organization, like the Southern Growth Policies Board, could be supported primarily by state appropriations. However, the organization could also be authorized to accept grants and contracts from the federal government as well as private contributions.

Institute for Midwest Development

In addition, the Great Lakes states might jointly create a nonprofit institute to serve the several state governments in defining long-range economic objectives and organization assistance programs for localities in service and regulatory areas that are likely to impact economic development.

A basic strategic need for the region is to anticipate the economic and technological changes and opportunities likely to develop in the coming decade or two, then to assist the region in capitalizing upon them.

A major thrust of such an effort should be directed toward the industrial cities. When comparative advantage favors the Midwest again, largely because of energy and water considerations, Midwest cities should be ready with

efficient public facilities, supplies of available land at reasonable cost, good transportation systems, and facilitative administrative practices.

The institute could serve as a center for developing effective approaches to urban problems. Clearly, the institute would be most effective if it acted as an arm of state government and worked with local groups through the appropriate state agencies.

The proposed institute could serve the following functions:

1. Act as a clearinghouse for the findings of research and demonstration projects. The states individually and their local governments are engaged in both research and action programs relating to economic development. In view of similar urban economic trends operating throughout the region, it would be very useful to have a systematic way to share the results.

2. Encourage capacity-building among local governments in functions relating to economic development. Frequently, local governments are a weak link in the chain of economic development. Too few of them know how to do capital improvements programming, to deal with the needs of industry for training or other services, or to facilitate the process of securing development permits. Too few are effectively coordinating the various federal programs, such as community development block grants, CETA and EDTA programs. There is a great need to develop capacity-building seminars and training programs for local officials.

3. Facilitate administrative practices for urban retrenchment, assisting cities to maintain a desirable level of services while population declines.

Cities should be encouraged to pioneer with methods of maintaining high levels of urban amenity while managing fiscal contraction. These methods could include the following:

- Contracting for services with private firms, or with profit-sharing groups of erstwhile city employees;
- Refining methods of relating compensation to productivity;
- Creating alternatives to traditional civil service systems;
- Experimenting with neighborhood devices for controlling and supplementing the level of public services; and
- Using land banking to preserve high-density urban settlement patterns.

4. Foster non-bureaucratic forms of organization in the private and public nonprofit sectors. Economic development will ultimately rest upon the encouragement given to the spirit of entrepreneurship and enterprise. Government can assist not only by adopting non-bureaucratic forms of its own, but also by looking at those taxation and regulatory policies that encourage non-bureaucratic firms, such as unincorporated business and professional activity.

Capacity Building

Another important focus for joint efforts is capacity building. The states could undertake programs of local capacity building in economic development. They could offer training workshops for local officials, and they should review their statutes authorizing local economic development organizations and programs.

The training workshops could make local officials more sophisticated about business needs and problems. They could encourage officials to be more precise

in their commitments to the private sector, and teach officials how to tailor the inducements authorized in state law to the individual needs of firms.

The geographic scope of local economic development efforts should be expanded to the county and sub-state regional levels. In order to neutralize local jealousies and encourage inter-local cooperation, states should review their tax and grant policies to remove the competition among localities for high value/low service cost development. Examples to study are the Minneapolis/St. Paul tax base sharing plan and the Wisconsin tax base neutralization program.

States should fund demonstration projects to experiment with new organizational forms for administering economic development programs at the local level. They should monitor and publicize the results widely. State municipal leagues and other governmental associations should make local economic development an agenda item. The Institute for Midwest Development, proposed above, could make a significant leadership contribution to these types of efforts.

For the reasons cited below in this section, creating such organizations and joint state programs will not be easy and probably cannot be created immediately. Unquestionably, the first step should be to achieve solid support smong the states for a cooperative undertaking from the governors. Then, the state and federal legislative leadership should be drawn in. Perhaps this can be done at the same time that the Committee brings into its membership some key business, labor, and civic leaders of the area.

The Committee for Great Lakes Economic Action faces a very difficult problem moving forward from where it presently is into an organization of broader representation that will have a more significant impact on solving the region's problems. Briefly, what we would recommend is an organization that can be described as a "Southern Growth Policies Board with a difference," the difference being a significant research and analysis capacity undergirding the considerations of various problems and policy options.

Solutions to many of the region's problems may now seem politically unrealistic to many, but changes in attitude and shifts in majorities, can and do occur all the time and they occur because of a process in education and compromise. If this is to happen in this region, much more discussion and education on regional problems must take place than is now occurring. This must be undergirded by careful analysis of the consequences of specific governmental or private actions.

The Committee's difficulties will be these:

- Lower Level of Regional Awareness: Compared with the South, the West and even now, the Northeast, there is a very low level of regional feeling in the Great Lakes states -- whether among businessmen, labor leaders, government officials, or citizens in general.
- Low Level of Understanding of the Region's Problems:
  Those interviewed in this survey were acutely aware of their own immediate difficulties. In our view, these only became regional problems when they were mentioned, again and again, from place to place, across all six states. Those who verbalized the problems usually did not do so in a regional context. The generally sanguine attitude evoked by many government and business leaders indicated that they do not understand the challenges the region faces.
  There is a lack of knowledge of the interrelationships of the economy of this region. A competitive atmosphere among many of the states still prevails.
- Hostility to Regional Organization: The Committee will face a considerable amount of hostility from both government and business leaders to regional organizations, especially if these are presented as some new

and additional level of government. This hostility is based in part on philosophical views, in part upon the uncertain past performance of some regional organizations, but above all, it is based on a doubt of what the states really have to gain from any regional organization.

- Competition Among Regional Organizations: Other regions of the country are plagued with the problem of competition among regional organizations. This is an advantage here. While there are many organizations in this region, some of which have overlapping charters (especially concerning the Great Lakes themselves), one does not get the impression that there is a severe problem with competition or "turf" in this area. This is an asset for the Committee.

OTHER MODELS FOR REGIONAL ORGANIZATION

The Southern Growth Policies Board

The Southern Growth Policies Board is composed of public and private leadership in 15 Southern states. It carries out its work through various committees and study groups. It has been publicly supported and is tax-exempt. The states provide the Board's operating budget based on a formula that considers equal shares, population, and per capita income ratios in the states. The Board itself consists of five persons from each member state: the governor, a state Senator, a state Representative (both appointed by the leadership in their respective houses) and two citizen members appointed by the governor. The Board is chaired by a Governor.

In 1974, the Board organized the Committee on the Future of the South to develop a statement of regional objectives with recommended action by the member states. The statement is contained in the Board's publication titled, "The Future of the South," and is planned to be updated at six-year intervals. The Board is not a government and has no legal or coercive power over any state or any state agency.

The Rocky Mountain Federation

The Rocky Mountain Federation, organized in 1965, is composed of both public and private interests in the states of Colorado, Montana, New Mexico, Utah, and Wyoming. Recently, the federation has had difficulty maintaining its momentum and role as a cooperative undertaking among the states because of the multiplicity of inter-state organizations in that region. Evaluations are now underway in the Rocky Mountain West of this need for new organization, federation, or a state-government-based instrumentality. The primary impetus behind the present efforts in the West is to create an organization with the competence to manage the region's interest in energy development.

The Appalachian Regional Commission

The Appalachian Regional Commission was formed by an Act of Congress in 1965 after an intensive two-year program conducted by the state governments and federal agencies involved. The study organization was called the President's Appalachian Regional Commission. It presented a report that suggested a legislative package

to Congress, a modification of which resulted in The Appalachian Regional Development Act of 1965. This was a comprehensive program, consisting initially of predominantly public works assistance to the states (later broadened to contain a significant human services component).

In its early years, the organization was generally regarded as successful in drawing together state governments in the region and planning and setting priorities for the effective economic redevelopment of the area. However, it was never able to effectively coordinate all of the federal activities in that region. Through its assistance in planning programs, it was able to develop the capacity of a largely rural region to participate effectively in a host of federal programs, including the Appalachian program itself.

This model, however, does not seem to be presently applicable to the Great Lakes states as their current needs are not predominantly special-program and grant-assistance in nature. The Appalachian program also lacked the involvement of business, labor, and minority affairs leadership, which will be vital to the solution of the Great Lakes region's problems.

Title V Regional Commissions

Although the formation of the new Title V Regional Commissions is at present moot, there is already a Title V Commission existing in the Great Lakes region--The Upper Great Lakes Regional Commission. Its mission is to develop the largely rural hinterland area of Upper Minnesota, Wisconsin and Michigan, which has its own problems, problems which in many ways are quite distinct from the industrial area of the region. Any cooperative development effort of The Committee for Great

Lakes Economic Action must, of course, be done in close cooperation with the Upper Great Lakes Regional Commission. The development of the resource and recreation-based economy of this northern tier is highly interrelated with the economics of the other parts of the region.

While these regional commissions have had some modest success in meeting the needs of rural regions, they may prove to have little relevance to the complexities of urban and industrial redevelopment in which many private interests are involved. Unlike Appalachia, major appropriations have not been made available to Title V areas.

The future of these commissions is now being studied and it is possible that the Administration may recommend to Congress anything from their abolition to changing their function, composition and boundaries. The Committee for Great Lakes Economic Action should, of course, keep abreast of these developments and be prepared to recommend to the governors of the region any action that would be to the region's advantage.

The economic problems of the Northeast and Midwest are much more complex and call for a broader kind of representation and involvement of private and local government interests than these commissions contemplated.